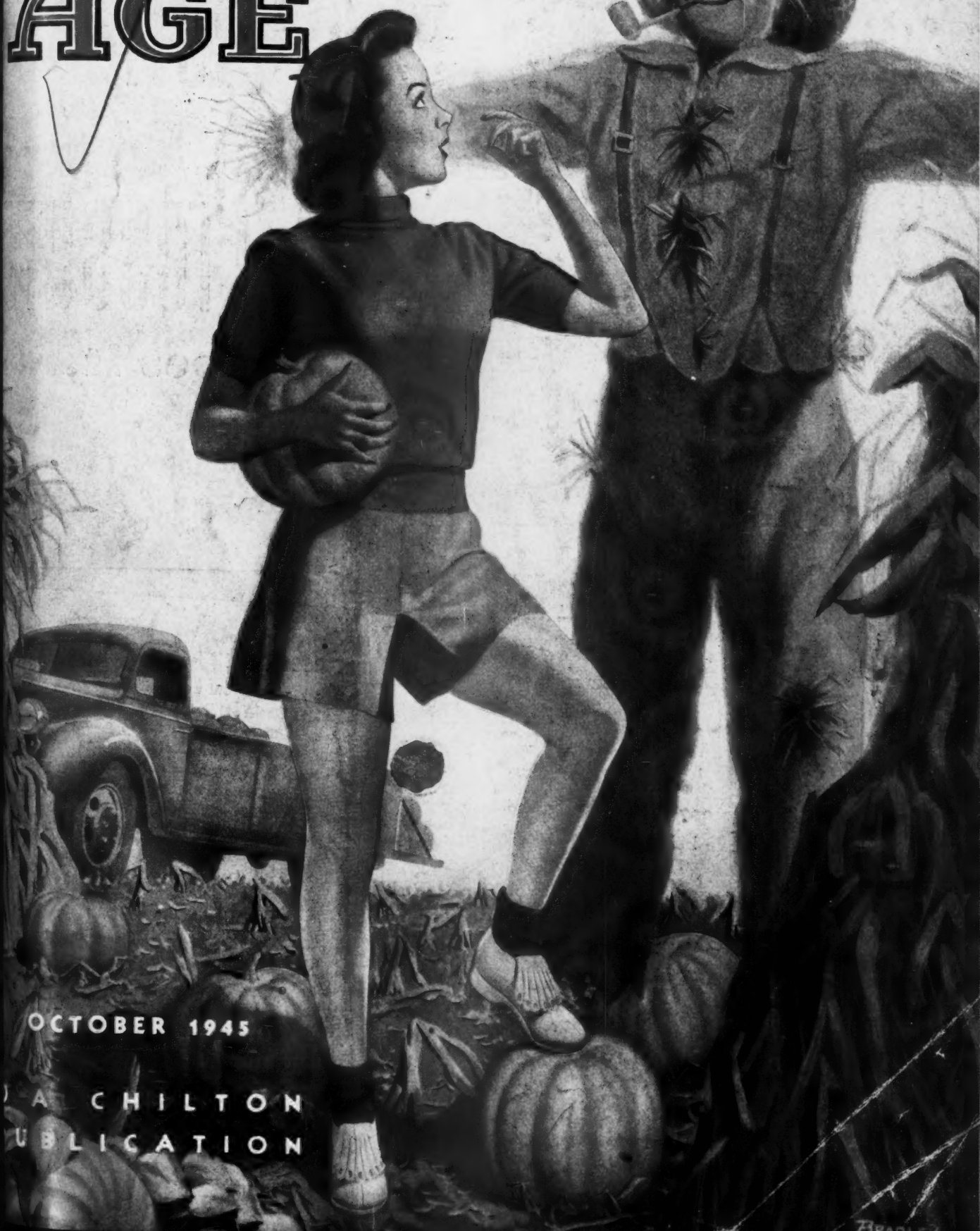


TECHNOLOGY DEPT.

MOTOR AGE

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DETROIT



OCTOBER 1945

A CHILTON
PUBLICATION

BRADLEY



Soft Pressure does it...

Soft pressure oil-control means less wear on the cylinder walls. And that means a longer-lasting engine . . . Very important today when it's almost impossible to get a new one.

That's why so many Steel-Vent "motor engineered" sets are being installed in rebores as well as in the tapered jobs.

SOFT PRESSURE DOES IT — IN REBORES, TOO

From the deep south a big Steel-Vent user writes: "We have been using Hastings Steel-Vent Piston Rings on all rebore jobs for quite some time. We have found, after boring a block, that it takes much less time for the Hastings Ring to get set to the block than any other ring that we have ever used. In our experience we have found that Steel-Vents will give us more miles with less cylinder wall wear and less oil consumption on any make of car or truck."

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
Hastings Mfg. of Canada Ltd., Toronto

*Buy
Victory Bonds*

HASTINGS STEEL-VENT PISTON RINGS

U S PAT 2,148,997



TOUGH ON OIL-PUMPING **GENTLE** ON CYLINDER WALLS



*Almost every American
benefits every day
from the products of
BORG-WARNER*

GEARING FOR PEACE as painted by James Sessions at Warner Gear in Muncie, Indiana. From the inception of the first "horseless carriage," this great Borg-Warner plant has consistently been the leader in the mass production of gear assemblies for the automotive industry. During the war, it was one of the largest producers of transmissions for all types of motorized military vehicles.

The Warner Gear Division, although the world's largest independent producer of transmissions, is only one of three great Borg-Warner units making gear assemblies.

There are many fields in which Borg-Warner products benefit almost every American every day. In fact, Borg-Warner products are found on 9 out of 10 farms, in

9 out of 10 airplanes as well as in 9 out of 10 makes of automobiles. And Norge refrigerators, ranges and washing machines make the homes of millions more efficient and livable.

All of which illustrates how Borg-Warner's principle, "Design it better, make it better" works in many ways to bring you ever better products at ever lower costs.

Partners with the automotive industry from the start, Borg-Warner parts today are serving in 9 out of 10 makes of automobiles...

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CLUTCH SPRINGS
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Makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units form Borg-Warner: BORG & BECK • BORG-WARNER INTERNATIONAL • BORG WARNER SERVICE PARTS • B-W SUPERCHARGERS, INC. • CALUMET STEEL • DETROIT GEAR • DETROIT VAPOR STOVE • INGERSOLL STEEL & DISC • LONG MANUFACTURING • MARBON • MARVEL-SCHLEBLER CARBURETOR • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • NORGE • NORGE MACHINE PRODUCTS • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR



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if you want to get *RESULTS!***

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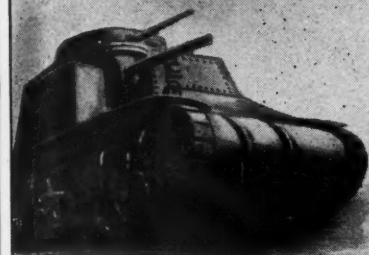
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For pressure-tight... leak-proof unions!



Pressure-tight and leak-proof assemblies are of vital importance to the efficiency and proper maintenance of trucks, buses, planes, tanks, tractors, boats, diesel engines, pumps, pipelines and industrial machinery.



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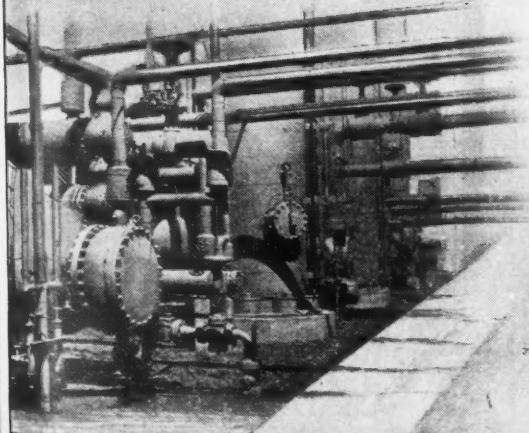
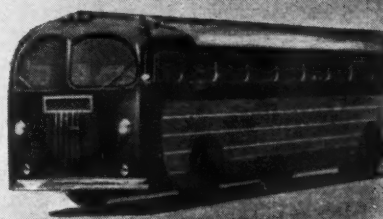


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Permatex Aviation Form-A-Gasket is a heavy liquid that does not dry and does not run. Readily brushable and self-levelling.

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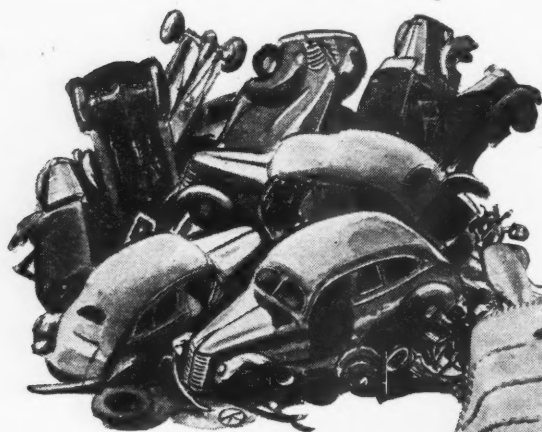
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"NO 'GRAVEYARD GAMBLING' for me!..



I'm a steady customer for **MARFAK!**

MOST MOTORISTS *know* that only the best of care and proper lubrication can keep their cars from joining the *million* or more cars that will be junked this year.

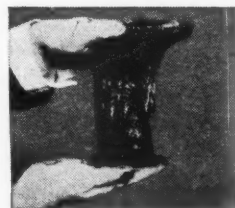
That's why more and more of them are *asking* for Marfak, the special Texaco chassis lubricant that makes cars ride quieter, handle easier and *last longer*.

Dealers everywhere are cashing in on the demand for Marfak. It keeps customers happy and brings them back *regularly*. Marfak is advertised in

the leading magazines with color ads . . . and on the Sunday night *Texaco Star Theatre* radio program.

A few simple demonstrations convince car owners that Marfak sticks to its job, defies jolts and shocks . . . *protects* their cars.

Build a bigger lube business and boost your profits . . . with Marfak.



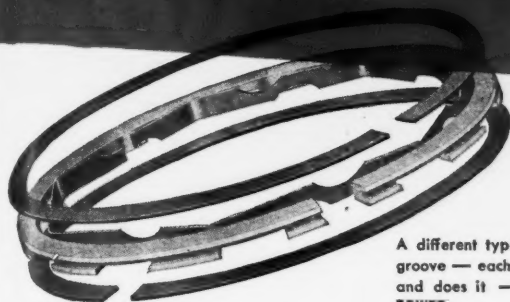
Talk to your Texaco man today — telephone the nearest of 2300 wholesale supply points — or write to The Texaco Company, 135 E. 42nd Street, New York 17, N. Y.



YOU CAN MAKE MORE

MONEY WITH MARFAK

IF YOU DESIGNED YOUR OWN PISTON RINGS



**TOMORROW'S RINGS
TODAY!**

A different type ring for each groove — each ring has its job and does it — delivers **FULL POWER**.

You Would Want These **FULL POWER** Features

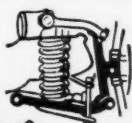
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HEAT TREATED
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PARTS

**Springs where Springs are used. Coil
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Check Moog X-Plus Piston Rings — see if these seven steps of ring design don't meet your own specification. Write for Moog **FULL POWER** story today.

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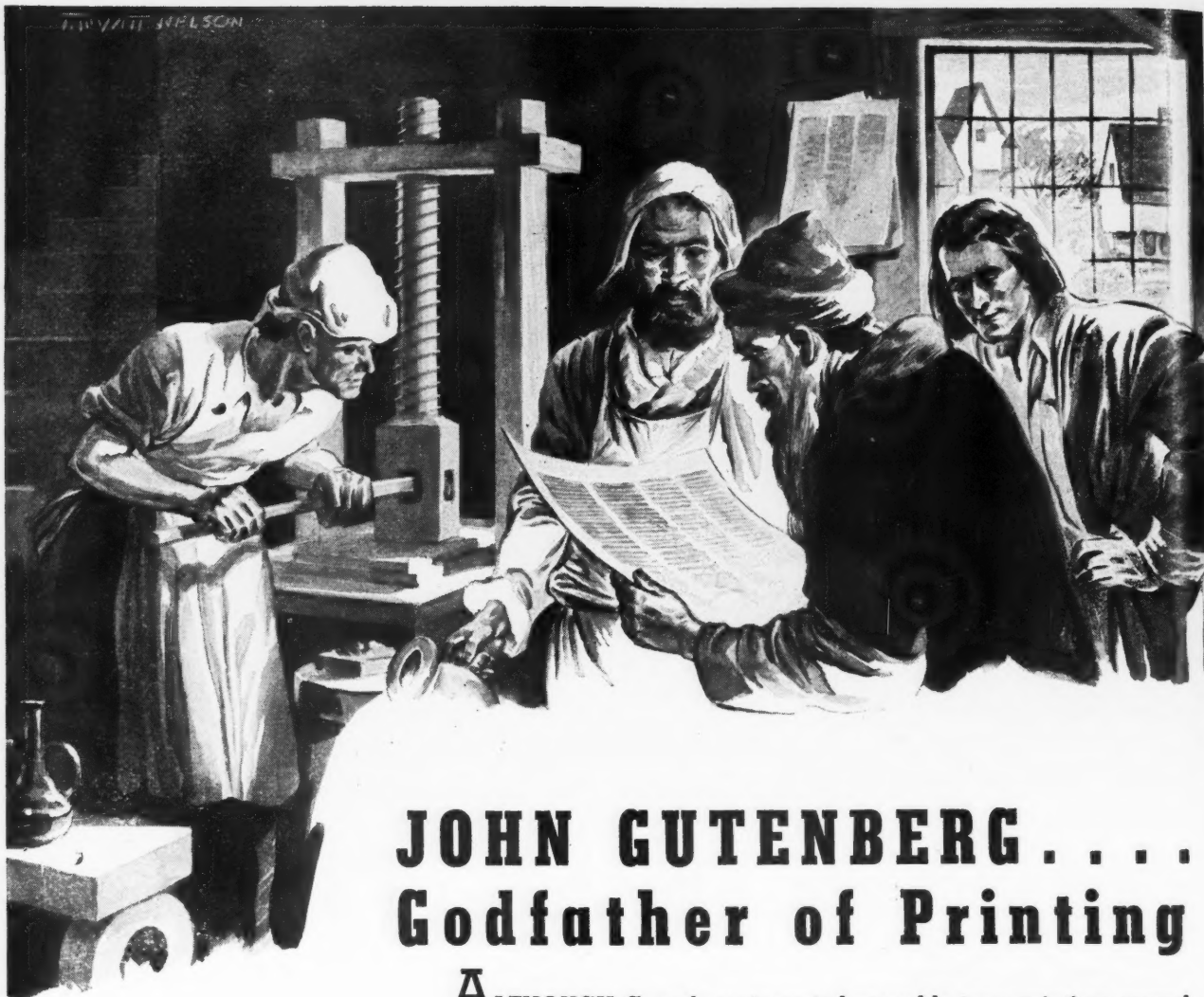
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JOHN GUTENBERG Godfather of Printing

ALTHOUGH Gutenberg invented movable type printing around 1438, it was many years before he had the means of making any practical use of it. Eventually, at Mainz, he completed one of the world's most far-reaching deals. A wealthy goldsmith named Fust contributed 4000 crowns and his time, in return for which Gutenberg agreed to build a printing plant and print the bible. The first page was done in 1450, the last in 1455. Had it not been for this *timely* trade, Gutenberg's epochal invention might have been lost for many centuries.

You, too, will make a timely trade if you will let your Jobber exchange your ailing fuel pumps for



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AIRTEX
Diaphragms
Guaranteed for
50,000 Miles

Factory Tested
AIRTEX
FUEL PUMPS

"Your profits climb with the AIRTEX Line"

AIRTEX AUTOMOTIVE CORPORATION, FAIRFIELD, ILL.





There's no thin ice in the

Delco-Remy Line

ORIGINAL-EQUIPMENT PARTS

Sound and solid, that's the Delco-Remy line.

It is made up of Delco-Remy *original-equipment* parts and products . . . original equipment in more cars, trucks and buses than any other make of electrical equipment. The demand for service with Delco-Remy parts is strong and steady, based on the millions of Delco-Remy-equipped vehicles in use.

What's more, there are no "weak spots" or gaps in the Delco-Remy line. It provides

complete service parts and information for all Delco-Remy-equipped vehicles on the road. You get plenty of "fast movers," of course, but you're also protected when repairs call for a small-demand part that isn't used in day-to-day service. Your electrical service is on a firm foundation with Delco-Remy.

As the recognized leader in automotive electrical equipment, Delco-Remy gives you a solid line for establishing and maintaining a sound business.

DELCO-REMY ELECTRICAL EQUIPMENT FOR AIRCRAFT

Delco-Remy, long the leader in automotive electrical equipment, is now building electrical equipment for aircraft. Delco-Remy will make available the same strong merchandising and service support in this field as it has in the automotive field.

BUY VICTORY BONDS



A UNITED MOTORS LINE

Delco-Remy original-equipment parts are available through leading independent distributors throughout the United States.

Delco-Remy


DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN



QUALITY FIRST continues just as true as it was during wartime when Grey-Rock's advertising preached *quality* products and *quality* shop-services. As always, Grey-Rock will rely upon its original-equipment experience and its progressive engineering for continued product-improvement. And, Grey-Rock's "balanced" will continue to mean correct, factory-selected combinations of braking-material and up-to-the-minute brake-servicing information. You can continue to depend upon your Grey-Rock jobber for all *quality* parts and expert shop-services. UNITED STATES ASBESTOS DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.





Repairs cracked cylinders,
water jackets, engine heads
quickly—safely—securely!

There'll be lots of cracked cylinders this winter—due to the age of the cars and scant supplies of anti-freeze—and there'll be very few welders to make repairs.

Many cars and trucks will need Du Pont **MOTOR-MEND**, for it repairs engine cracks quickly, securely and without the need of tearing down the engine. Just pour it into the radiator and let it mix with the cooling solution. It won't clog the radiator or harm the parts—and it is not affected by standard anti-freeze or anti-rust solutions. It's highly efficient and dependable—made by a new formula developed by the Du Pont chemists.

MOTOR-MEND is in heavy demand, so order a stock now and have plenty on hand when the freezing weather sets in.

Packed in Pints (12 to carton), \$1.50 list, with usual trade discounts. Sold by automotive jobbers everywhere.

E. I. du Pont de Nemours & Co. (Inc.)
Wilmington, Delaware



**DU PONT
No. 7 LINE**



WAGNER LOCKHEED No. 21 HYDRAULIC BRAKE FLUID

takes care of all cars, trucks, and buses

You'll save money, time, and space when you reduce your inventory by stocking Wagner Lockheed No. 21

Hydraulic Brake Fluid—the ONE fluid for ALL makes of cars, buses, and trucks having hydraulic brakes. No. 21 is unsurpassed for dependable performance and mixes with other fluids approved by ve-



H45-11

hicle manufacturers. No. 21 is also an all-season fluid that gives reliable service any time of the year in any climate where cars, trucks, and buses operate.

No. 21 not only amply lubricates the system over the operating range of temperature, but it also maintains chemical characteristics under most severe operating conditions.

Because of its superiority, No. 21 is used by car, truck, and bus manufacturers. It is warehoused throughout the U. S. and Canada, and, like Lockheed Hydraulic Brake Parts and CoMaX Brake Lining, is available everywhere through Wagner jobbers.

Wagner Electric Corporation

ESTABLISHED 1891

6498 PLYMOUTH AVENUE, ST. LOUIS 14, MO., U. S. A.

Remind your customers "BRAKE FLUID SHOULD BE CHECKED TWICE A YEAR"

"I'm a Rolling Stone that really Settled Down"

Reading time: 1 minute, 58 seconds

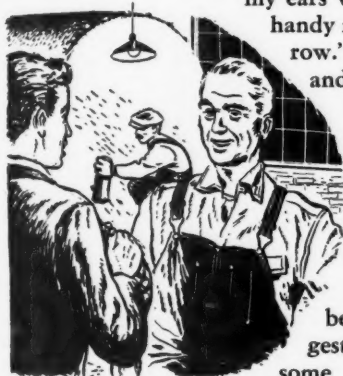


"**T**HERE WERE eleven hungry kids in our family when I left the farm. Mother cried, Dad gave me a five dollar bill, the rest of the kids hollered goodbye as the train pulled out of the station.

"I'll never forget that first night in the big city. I sat on the edge of my bed and felt pretty homesick. The landlady had said she'd trust me for one week's board. So, tomorrow I must get a job.



"After two days of despair I saw some lights in a little shop near the rooming house. I went over. Some men were fixing a boiler. I was scared, but I asked the boss for a job. I couldn't believe my ears when he said, 'We need a handy man, come around tomorrow.' I came around alright, and I stayed ten months.



"I got to be quite a machinist. I moved into a lot of different jobs for many years. I traveled all over the Middle West. I liked to be on the move. The biggest thrill I got was doing some work for the famous Wright brothers in their little Dayton machine shop where they were building their first airplanes. People thought they were crazy, but they didn't seem so to me.



"My sideline in those days was boxing. I saved quite a bit of prize money. On one of my trips to Detroit I saw the town was beginning to boom and that automobiles had come to stay. I decided to stay too. I got a job in a big automobile plant and thought about getting married and settling down.



"As soon as I got the feel of the automobile business I wanted to get in it for myself. I quit boxing, got married, and on the side I bought some used cars. I fixed them, cleaned them and sold them fast. I liked handling cars. I quit my other job, and in a single year sold 420 used cars. I was settling down alright, I was a family man. I was in business.

"Then Mr. Chrysler brought out his marvelous new car. Boy, did I like that car. And Mr. Chrysler was looking for dealers too. My machinist training and my car experience now came in mighty handy. Instead of used cars, I now bought and sold those beautiful new Chryslers, and then Plymouths. Except for the war that's what I've been doing ever since. The future is even brighter than the past for Chrysler-Plymouth dealers. I'm sure glad I'm one of them."



THIS is another true story from the records of the Chrysler Corporation, a story of individual initiative and enterprise in a free country. When the war came this distinguished Chrysler dealer converted a large portion of his fine establishment to the needs of war production. Now that the war is over he is ready to sell new Chrysler-Plymouth cars again, with thousands of friends and a fine record backing him up.

CHRYSLER CORPORATION
PLYMOUTH * DODGE * DE SOTO
CHRYSLER * DODGE Job-Rated TRUCKS

Listen to "The Music of Andre Kostelanetz" with leading Personalities of the Entertainment World as Guest Stars, Thursdays, CBS 9 P.M., E.T.

KEEP ON BUYING MORE BONDS



Headed your way

THE NEW BLACK ARROW LINE of Gas Cutting and Welding Apparatus. Black Arrow is the new, packaged line of high quality, precision-built Gas Cutting and Welding Apparatus—specially designed for automotive work. Products range from complete outfits through a broad selection of torches, tips, regulators, accessories and supplies.

You'll hear more about the new BLACK ARROW line from your jobber—soon.



The **BLACK** MANUFACTURING CO.
1416-1428 W. BALTIMORE ST., BALTIMORE 23, MD.

AUTO-LITE

Spark Plugs

IGNITION ENGINEERED BY IGNITION ENGINEERS



BUY
MORE
BONDS

Auto-Lite spark plugs are built by the same engineers who design the entire electrical life line for many makes of our finest cars—from battery, to coil, to distributor, to spark plugs. This specialized ignition experience and know-how is one reason why Auto-Lite builds the best spark plugs money can buy. Why sell anything but the best?

To help your customers get the performance, economy and long life originally built into their cars, install Auto-Lite Spark Plugs — they're ignition engineered.

THE ELECTRIC AUTO-LITE COMPANY

Merchandising Division

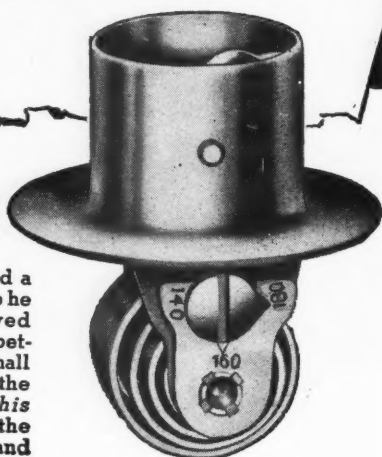
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TUNE IN "EVERYTHING FOR THE BOYS"
STARRING DICK HAYMES—EVERY
TUESDAY NIGHT—NBC NETWORK

*Now: Sell 'Em
SATISFACTION*

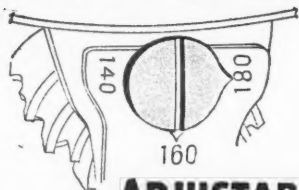


When a customer has had a motor overhaul or tune-up he expects to feel improved pick-up, faster starting, better performance. Any small extra you can include in the job which promotes *this feeling*, also builds up the customer's satisfaction and good will. SO—

*Make
Thermostat
Replacement
Part of Every
Motor Tune-Up...*

use **DOLE**

Can be adjusted to varying conditions; high start-to-open temperatures for winter driving, and low temperatures to give full cooling system efficiency and fight overheating in the hot summer months.



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MOTOR AGE

With Which Is Combined AUTOMOBILE TRADE JOURNAL

FOR AUTOMOTIVE SERVICEMEN

Vol. LXIV No. 11

October, 1945

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★ FAST TURNOVER
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*All Making
Sales for
You!*



**WHEN YOU SELL WHIZ MOTOR RYTHM,
YOU SELL CAR CONSERVATION!**

More car, truck and tractor owners are buying Motor Rythm this year than ever before in the history of this best-seller. Tune in this powerful magazine and radio campaign on your cash register—display WHIZ MOTOR RYTHM prominently.

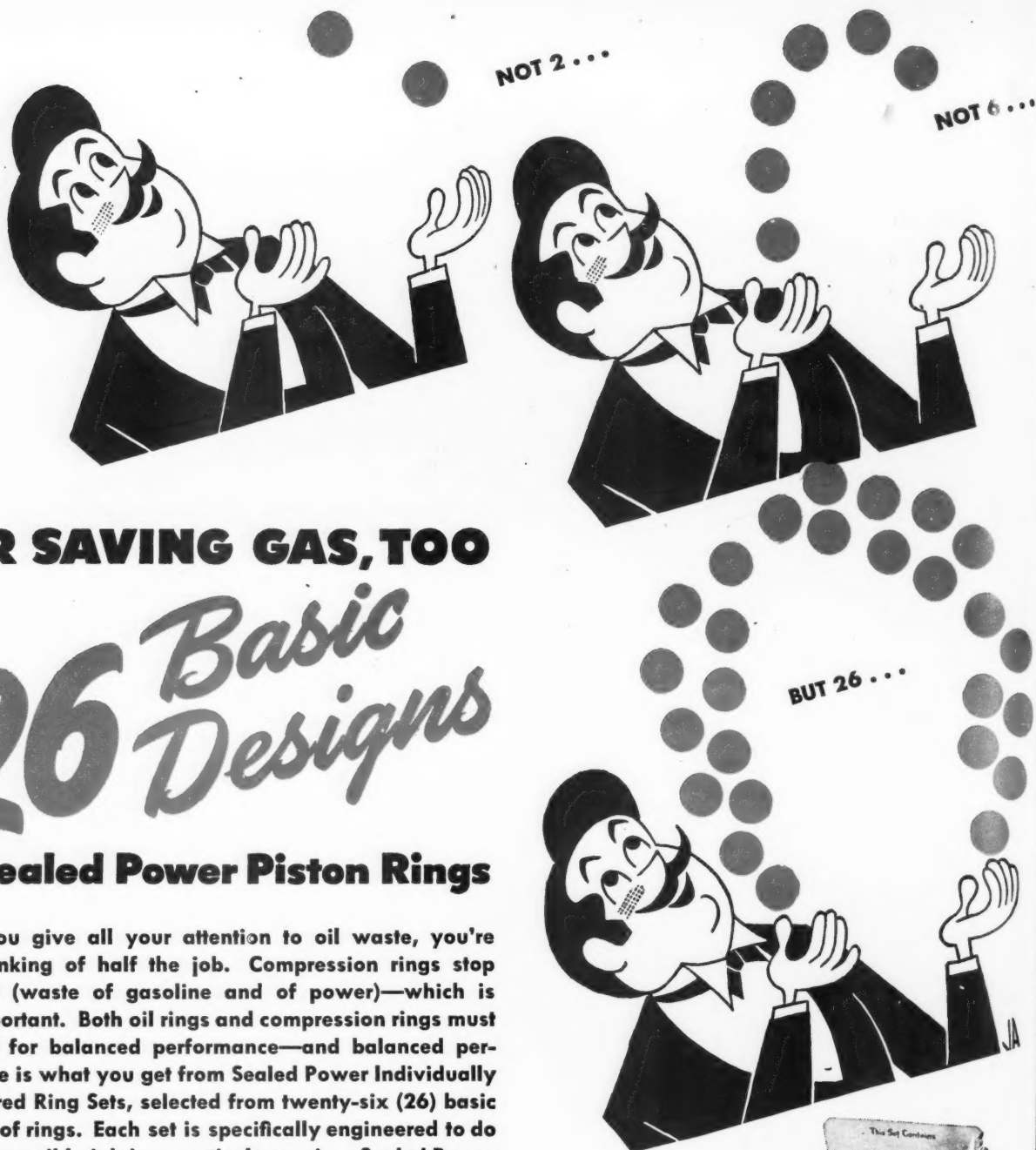


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LEADER IN MAINTENANCE CHEMICALS



FOR SAVING GAS, TOO

26 *Basic Designs*

of Sealed Power Piston Rings

When you give all your attention to oil waste, you're only thinking of half the job. Compression rings stop blow-by (waste of gasoline and of power)—which is also important. Both oil rings and compression rings must be right for balanced performance—and balanced performance is what you get from Sealed Power Individually Engineered Ring Sets, selected from twenty-six (26) basic designs of rings. Each set is specifically engineered to do the best possible job in a particular engine. Sealed Power has been refining these sets six years—has been producing rings for car, truck and engine manufacturers 34 years. For balanced performance, saving gas as well as oil, and increasing power and engine life—re-power with Sealed Power motor parts. Sold by America's Leading Distributors. Sealed Power Corporation, Muskegon, Michigan and Windsor, Ontario.

Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves, Water Pumps, Bolts, Bushings, Tie Rods, Front End Parts.

Keep your war bonds! Get \$4 for \$3!



SEALED POWER PISTON RINGS

BEST IN NEW CARS! ★ BEST IN OLD CARS!

**INDIVIDUALLY
ENGINEERED**

SLANTS ON THE News



New Car Rationing Up to Dealers?

IN the inner circles of O.P.A. and W.P.B. there is considerable discussion of the possibility of leaving the rationing of new cars in the hands of the car dealer. The decision is complicated by many factors. First of all, the ability of the factories to exceed initial production schedules is now generally conceded. However, the labor situation is such that it is impossible to forecast the number of cars that will roll off the lines before the first of the year. Naturally, with only a few cars available, rationing would be continued.

Finance Rate Reduction May Prove Opening Gun

SEVERAL finance companies have announced a reduction in their wholesale rate to dealers to 3 per cent per annum, simple interest, according to an NADA report. The association asserts that the announcement may be the opening gun in the battle for finance business between the old-established finance companies, banks, and insurance agent-bank combinations.

SSR-49 Controversy Still Smouldering

WHILE O.P.A. and many maintenance men believed that the 1/3 increase that was permitted for the 56 repair operations listed in SSR-49 would end the controversy, others are continuing the fight. The three A's is protesting on the basis that repair prices have been needlessly increased and has resulted in a disservice to 22 million car owners. Furthermore, the association was unable to find any evidence of overcharging on a nationwide basis and substantiated that fact by a check of the more than 600 A.A.A. offices in all sections of the country.

The more frequent and emphatic objection which came from maintenance men dealt with the additional clerical and other paper work that was required. This is a tremendous

problem for both small and large shops, adding greatly to the cost of doing business. Further complications result from the difficulty in hiring the clerks to do this work.

Another group of maintenance men state that since the war is over, and ceilings and restrictions are being removed in other industries they should also be removed from the automotive maintenance industry. Having failed to do so, these maintenance men aver that O.P.A. plans to continue control of prices indefinitely.

New Tires By Winter?

WITH threadbare tires restraining motorists from taking long delayed trips, the news that the first shipment of natural rubber has been received by Good-year was received with special interest. Forty-two tons of precious crude stock which had been produced during the war under the very noses of the Japs in the Philippines were recently landed at San Francisco. Meanwhile W.P.B. officials notified the Rubber Advisory

The first of a series of articles designed to help dealers and shop owners plan their postwar shops can be found on page 20 of this month's issue of Motor Age. The article discusses radiant heating and its present and future possibilities for use in automotive shops.

Committee that rationing of tires would remain as long as the difference between supply and demand would make orderly distribution of tires impossible. W.P.B. at the same time stated that the rumors that rationing of certain tires would be lifted were without foundation.

However, unless strikers interfere too much, most authorities agree that winter should see tires available to even the car owners who formerly held "A" ration cards.

Average Car Due For Retirement

R. L. POLK AND CO. is authority for the statement that the average car on the road today is eight years old and has travelled 56,000 miles. This would mean in general that the average car has already had a new set of rings, has had the brakes relined at least twice, has used about four starting batteries, and the owner is wishing the O.P.A. would let him buy another set of tires.

Dealer Discount Questions Unanswered

NO information is as yet available concerning the dealer discount questionnaires mailed by the N.A.D.A. to its members. Many dealers have exhibited reluctance to fill out the form, as they did not want anyone to know their cost of doing business. More information is needed by the N.A.D.A. in its discount fight, as it is asking for information covering handling and delivery charges on 1941 models, the possibility of change in rent, and whether advertising billed to the dealer by the factory was included in handling and delivery charges.

Knudsen Views GM European Plants

AS a result of damage during the war, only about 30% of General Motors plant capacity in Europe still is in operating condition. That is the report brought back by Lieut.-Gen. William S. Knudsen, a member of the board of G.M. and former president, who returned recently from a 12,000-mile inspection tour through England, Norway, Sweden, Denmark, France, Belgium, and Germany to look over General Motors properties.

New car announcements are still making news despite labor difficulties. Five new cars are presented in this issue of Motor Age, and each is discussed in detail. Design changes and any mechanical improvements are carefully noted in each of the new car articles.

The 30 per cent figure, he said, represents an average for all plants. The Vauxhall plant, in England, the A-C spark plug and the Frigidaire units at Paris, and the assembly plants at Stockholm and Copenhagen were not damaged, and with the exception of the latter two still are operating. Vauxhall is manufacturing 2½-ton trucks for the English government. The Stockholm and Copenhagen plants have not operated for five years, but will resume operations as soon as parts and subassemblies can be produced and shipped from this country, probably in December. Capacity is about 20,000 cars a year each.

Conditions of other G.M. plants were reported by Knudsen as follows: Antwerp, large assembly plant, 99 per cent destroyed; Berlin, truck plant destroyed; Russelsheim (near Frankfurt), Opel plant,

about 50 per cent gone; Brandenburg plant, badly damaged and stripped. G.M. has no plans for resuming operations in Germany, he said, and must await settling of reparations before knowing whether it will be compensated for war damage to its plants. He did not reveal what would be done with damaged installations in other countries.

Damage to Berlin, Knudsen said, was "horrible." He predicted that it would require 50 years to repair the devastation. De-industrialization of Germany would not work, he stated, since the country always has been the source of supply for steel and industrial equipment for Central Europe. Internationalization of industry there might work, he added, but the problem will require intensive study before it is worked out.

The trend toward the left is marked in all countries he visited, Knudsen stated. The Renault plant at Paris has been nationalized and the government exercises control over all industrial offices.

A tremendous export exists for American automotive products in Europe if the proper means can be found to finance their purchase, Knudsen stated. The industry can dispose of all it can build, over and beyond domestic needs, he said.

Car Owners Wary Of New Car Prices

THE decline in the price of used cars which was pretty general during September seems to have halted or at least slowed up. This is undoubtedly the result of the strikes, and a realization of the buying public that a plentiful supply of cars is still in the distant future. Another factor which some



SLANTS ON THE *News*

dealers declare has tended to make many car owners decide to hold on to their present cars is the announcement that the price of the new models will closely parallel current prices for 1942 jobs. The reaction of many car owners was, "I'll wait for the price to come down, I should pay 1200 bucks for a 750 automobile."

Surplus Parts Sales Reaching High Scale

AFTER one or two false starts which resulted in much adverse criticism and little in the way of success, the Office of Surplus Property of the Department of Commerce now is swinging into the merchandising of surplus automotive parts on a scale unequalled in history. The two principal differences from the previous method of sealed-bid sales at scattered auctions throughout the country are the adoption of fixed prices and the extension of credit to qualified purchasers.

Just how much surplus stock of new automotive parts the government now owns is anyone's guess. The most conservative estimates set it at about \$300 million, but others think that it may be closer to \$1 billion. Fabulous as this inventory sounds, however, the industry apparently is not greatly concerned about a market glut. One large manufacturer is reported to have analyzed sales of automotive parts to the government and discovered that the total was something less than 25 per cent of his normal average annual output. About half these parts are not common to commercial use, so the net output of useable parts is estimated at about 10 per cent of his annual sales.

Car Factories to Aid in Building

REMOVAL of building restrictions has uncorked a lot of dealer plans for new or renovated buildings. Virtually every car factory has a special department to aid their dealers in planning new buildings and have mailed them especially prepared manuals to assist them in formulating their plans.

German Tires Prove Inferior

THAT tires were a headache in America during the war is no secret, so it's interesting to note that tires in Germany were even a greater problem, as a special technical committee has checked German synthetic rubber tires and found them definitely inferior to the American made counterpart. It is particularly noteworthy that America created its synthetic rubber industry in only two years' time, while Germany had had hers operating on a commercial basis for years.

Still Room For Expansion

AS an indication of the expansion that is striking the industry, N.A.P.A. announces the opening of ten new stores throughout the country. At the same time new independent shops, car dealers and filling stations are appearing on the scene and equipment manufacturers in particular should have a field day equipping the new establishments.

Truck Industry Wants Ceiling Price Removed

WHILE passenger car manufacturers have still not announced prices on their new cars, the truck industry has asked O.P.A. to remove price ceilings on all commercial vehicles and parts. The basis for this request was that the number of truck manufacturers is so large, and their methods of production so varied that it is impossible to get a price formula that would be applicable to all companies. A particularly strong point was made when the industry pointed out that the purchase of a motor truck is a capital investment and reaches consumer costs through depreciation charges over a long period of years as part of the cost of transportation, consequently it has little relation to the increases or decreases of the cost of living.

It is doubtful that O.P.A. will agree to relax control of truck prices, as they feel that the demand for trucks is still too strong to permit free play of business.

However, the trucks being released by the army should soon take care of that situation.

And More Still Coming

SURPLUS trucks and parts continue to pour into Department of Commerce Office of Surplus Property in staggering quantities. Several thousand trucks are daily being declared surplus by the army. There are more trucks being declared surplus in one day than were formerly declared in a month. Incidentally parts now can be bought by mail on a fixed price basis.



This article discussing radiant heating is the first of a series designed to help Motor Age readers plan their postwar shop

INSTEAD of crawling about on an icy floor and shivering at double quick as the big doors swing open on winter days, the automotive mechanic of the future will work in a building transformed into a healthful, comfortable, attractive shop by concealed radiant heating, heating experts state.

That this is not another pipe-dream concocted by visionary postwar planners is assured by architects and heating engineers who have designed and installed such systems. Engineering problems have been licked and the new heating arrangement is ready for widespread adoption as soon as private building revives.

Radiant heating itself is not new. In fact, two thousand years ago at Bath, England, radiant heating was used by the Romans. Hot gases from charcoal fires were circulated through ducts to warm walls and floors, just as wrought iron pipe coils are now used to warm floor surfaces.

A large auto shop built in Chicago in 1912 was perhaps the first sizable floor-type radiant heating system in America. Because of the large number of doors in this structure, it was not feasible to use the conventional radiators and the designers therefore placed wrought iron pipes carrying hot water within sheet metal ducts cast into the concrete floor.

Radiant heating, of which there are now more than 1000 installations in this country, may do much to change automotive shops and other commercial buildings. Although requiring no new or untested materials, it is radically different from all other heating systems.

It consists of a series of under-the-floor coils or grids of wrought iron pipes through which hot water is circulated. Instead of having a few high temperature surfaces to heat the air in the room, the entire floor becomes a low-temperature heat-radiating surface.

One of the latest structures to adopt radiant heating is that of Lindner & Wood, of Salt Lake City, distributor for White Motor trucks in Utah, Idaho and Wyoming.

The brick building has 7315 feet of floor space, more than two-thirds of

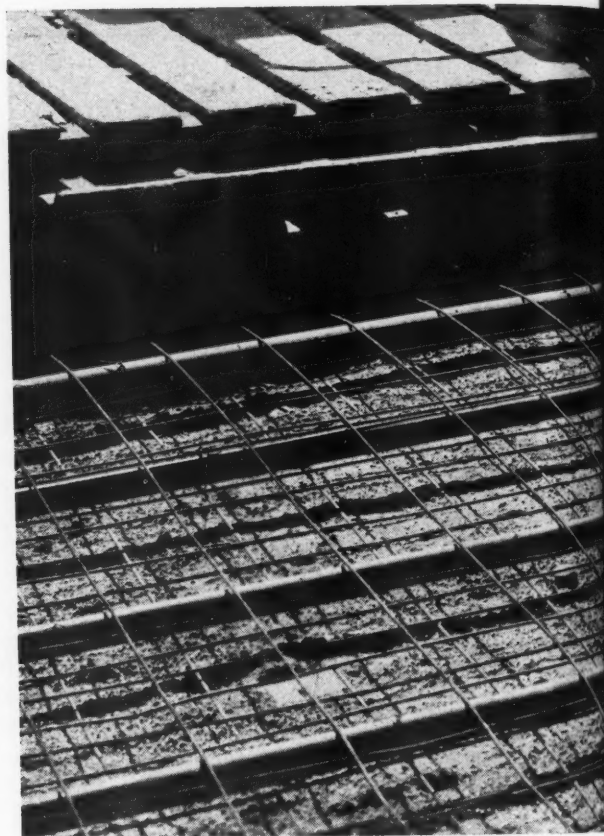
which is occupied by the service department (5552 sq. ft.). There are also a parts department and office. The two small departments have a ceiling height of 8 ft. 4 in., whereas the repair department has 16-foot height to the bottom of the overhead trusses. The small boiler room is under the parts department.

The wrought iron pipe was fabricated into a series of grids, placed in a 6-inch concrete garage floor slab.

The system in the Salt Lake City structure provides for individual room temperature control—70 degrees in

the parts department, and 60 degrees in the service shop, with outdoor temperatures at zero. The temperatures are more readily appreciated by realizing that radiant-heated structures do not require the high room temperatures necessary for comfort in conventionally heated buildings. Usual temperature maintained even in radiant-heated homes is in the middle 60's.

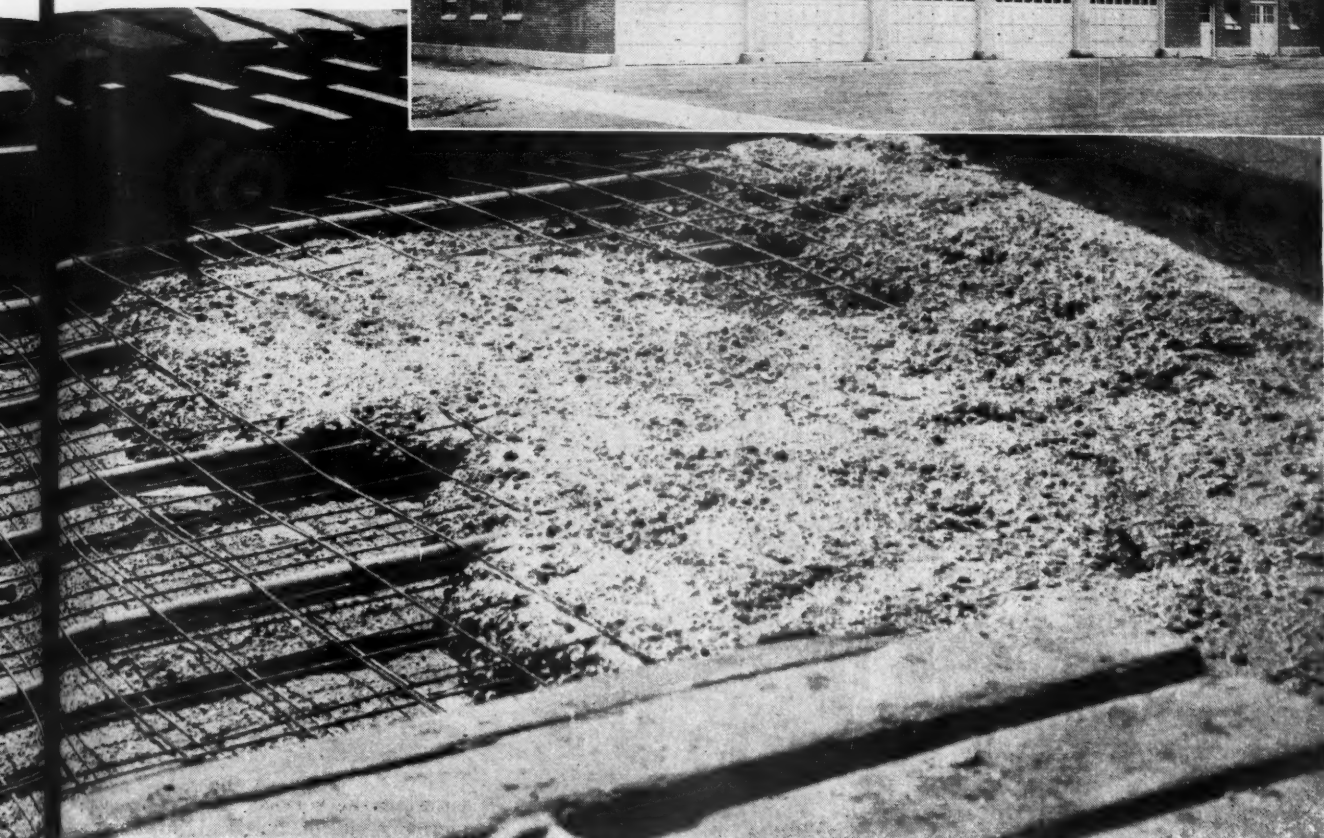
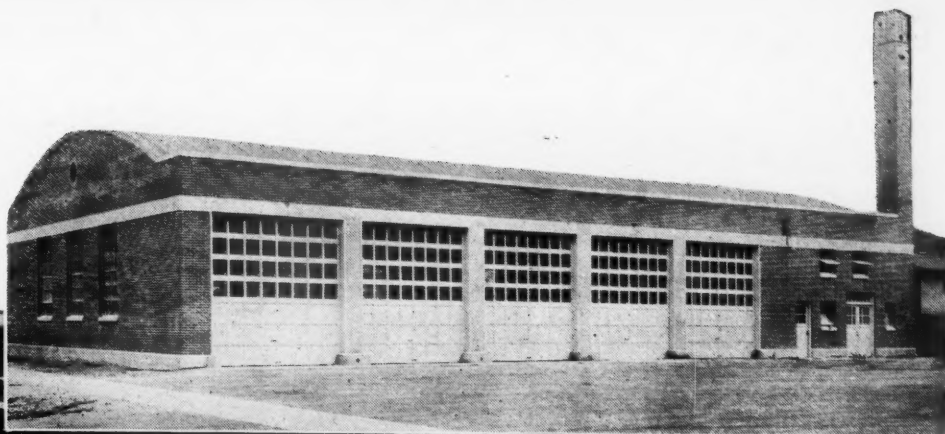
By being completely concealed, radiant heating occupies no floor or wall space which can be used for other purposes. For the same reason,



This close-up view shows how

Heating the

terior view of the Lindner & Wood
structure at Salt Lake City, Utah.



wrought iron pipes are concealed beneath the concrete floor for radiant heating.

e Postwar Shop

the system does not affect the location of partition walls or any later changes in such walls.

The temperature of a radiant-heated building promptly returns to normal after the doors have been opened to admit or discharge a car. The adoption of this heating system in airplane hangars stemmed from this specific characteristic. In a test in Colorado, it required only six and one-half minutes for the radiant-heated hangar to regain normal temperature after the doors were closed. On the day the test was made, the

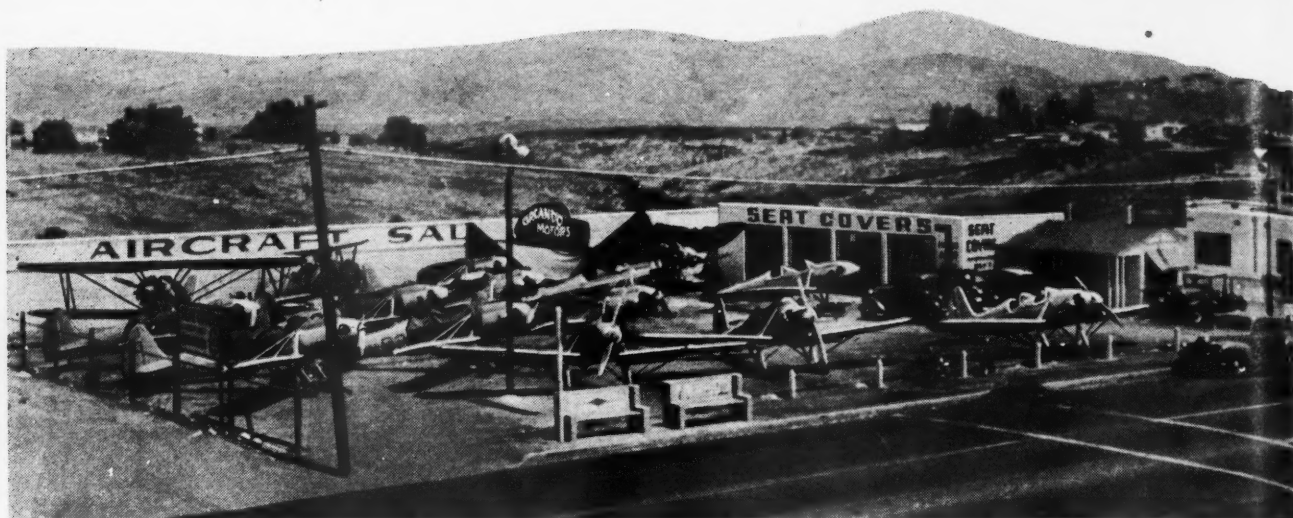
outside temperature was below freezing and the doors—virtually one entire side of the structure—had remained open for more than ten minutes, allowing the temperature to drop 22° F.

This type of heating permits use of large window areas to admit maximum light. Such windows have been possible in the past, but they made the room difficult to keep comfortably warm in winter. Radiant heating eliminates this problem by providing a draft-free room which does not set up cold drafts in the window zones.

Accumulated data suggests that the cost of installing radiant heating is about the same as for any conventional wet type system. In towns where a number of the systems have been installed, technical workers have become familiar with pipe bending and welding procedures and consequently radiant heating has achieved some installation economy over conventional systems, particularly in basementless designs.

Wrought iron pipe is used in virtually all radiant heating systems because its coefficient of expansion is almost identical with that of concrete, preventing cracks developing in the floor.

Operating economy, the records disclose, runs from 10 percent up to 30 percent in comparison with other systems, regardless of the fuel used—gas, oil or coal.



View of the Rolando Motors former car lot which has been converted into a used airplane lot.

The Car Lot Takes Wings

The airplane pushed the cars off the lot when two California business men featured several used airplanes for sale on their western car lot

SELLING used airplanes is not unlike selling used cars off the lot, two western aviation enthusiasts discovered when they placed a few planes on the car lot.

As a result the Rolando Motors, 6556 El Cajon Blvd., San Diego, California, is shifting emphasis from used cars to used airplanes. Proprietors Jim Dean and Sid Almgren have purchased government surplus aircraft and are finding that they are able to sell them as fast as they can be reconditioned and placed in service. Furthermore, there are no worries about OPA ceiling prices.

Featured on the lot are former Ryan two-place trainers and two-

seater Fairchild. The planes sell from \$2250 up, and the price includes the plane delivered on the airfield a half-mile away, fuel tanks filled and all set to go.

The strange part of it is that the buyers of these planes are not all ex-service pilots. As a matter of fact, the majority of buyers have never before flown a plane and are anxious to learn. Most of them are middle-aged couples who wish to fly for pleasure and take short trips about the country. Some of them have relatives or friends in the middle west, for example, and with airplane travel contemplate frequent visits in the future.

The planes purchased from the gov-

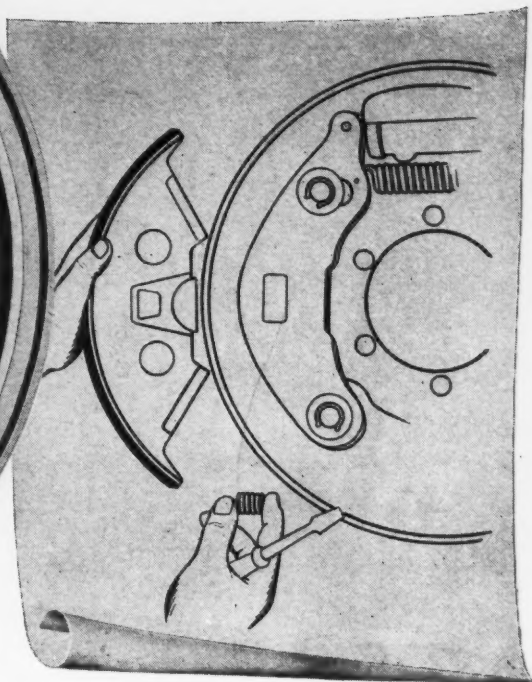
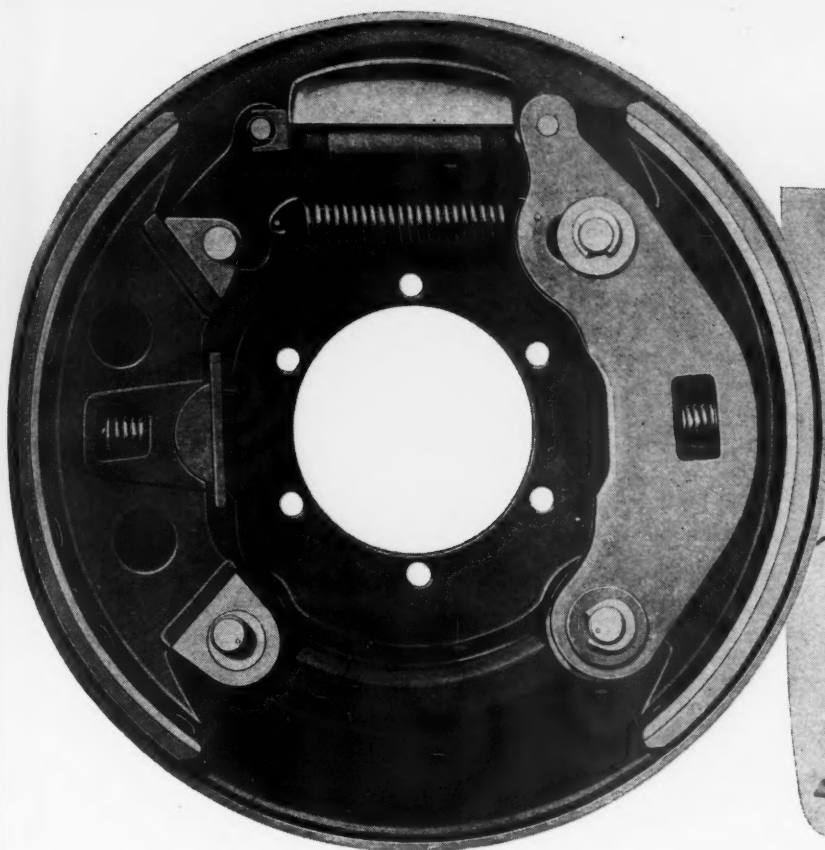
ernment must be completely reconditioned and then inspected by the Civil Aeronautics Authority before they can be placed on sale. As with used cars, the reconditioning required on the planes will vary according to wear and use, but several mechanics are kept busy.

Jim Dean is a former ferry pilot, having entered the service in June, 1942; he flew "the hump" from Massa, India, to Kunming, China. Prior to his entering the service, he was in commercial aviation and had the Taylor-Craft agency in San Diego.

Upon his honorable discharge from the service in January of this year, Dean and partner, Sid Almgren, joined forces to purchase the Rolando Motors, a used car business along San Diego's busy El Cajon Blvd. One day Jim and Sid saw an opportunity to buy from the government a used training plane for their own flying pleasure. At the same time they purchased several others, thinking that they might find an opportunity to sell them on the used car lot. From there the business has grown, until today every available bit of space is taken up by the aircraft—some 15 planes in all.

Office secretary and saleswoman is Miss Ruth Thompson, a former WASP, who has flown nearly everything that bears an Army insignia. Miss Thompson even delivers the planes herself, flying them to other parts of California or Texas—wherever the customer may be.

The transition from cars to planes was a big step, but perhaps it is a sign of the times. Interest in air travel and private ownership of planes is growing daily.



The Timken "DP" brake construction details are shown in the above illustration. Right, method of removing retaining spring.

Servicing the Timken "DP" Brake

Follow this detailed service procedure

when adjusting the Timken "DP" brake

A NEW design of hydraulic brake for commercial vehicles has recently been introduced by the Timken-Detroit Circle Co., and is known as the Timken "DP" or Dual Primary brake.

This new brake embodies many new features of design, notably the two shoes which both act as primary shoes in either direction of drum rotation. The brake consists of two brake levers, anchored at the lower ends on adjustable eccentric pins. The hydraulic cylinder is the straight bore conventional type protected by a heat shield over the top of the cylinder. A retracting spring is provided directly under the wheel cylinder return brake levers against the upper anchor pins. The upper and lower anchor pins are provided with abutment blocks, which act as a seat for the brake shoes. The brake levers are fitted with a pressure block at the center which forces the shoes against the brake drum when pressure is applied to the wheel cylinder.

The brake shoes are separate from the brake levers and are held in place by a retaining spring. The shoes are

fully interchangeable and are easily removed for relining or replacement. Removal of the shoes may be accomplished with only the aid of a screw driver to take out the retaining spring. After the retaining springs have been removed the shoes slide out of the brake levers.

The purpose of the metal shield over the wheel cylinder is to protect the cylinder and brake fluid from heat radiated from the brake drum.

With two shoes both acting in the forward direction, each shoe does the same amount of work consequently

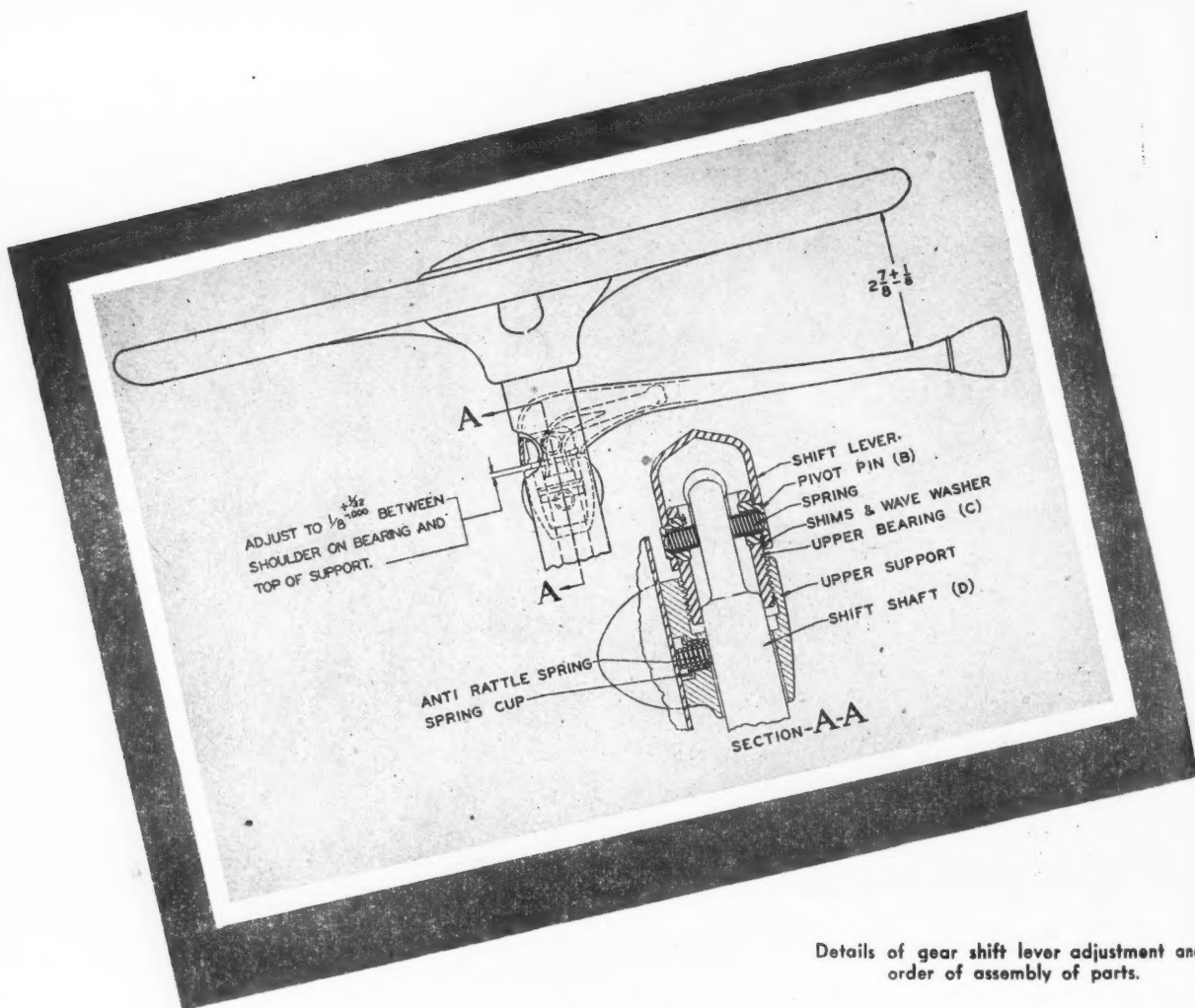
brake lining wear is reduced to a minimum which should result in fewer adjustment and relines. Since the shoes are floating, full contact of the lining and drum are insured.

With the simplicity of design and the interchangeability of the various parts, replacement stocks are reduced to a minimum.

The brake is well sealed against water and dirt, a labyrinth drum seal. This reduces scoring and grooving which makes for longer lining life.

The adjustment for clearance be-

(Continued on page 56)



Details of gear shift lever adjustment and order of assembly of parts.

Servicing *P*ontiac Safety

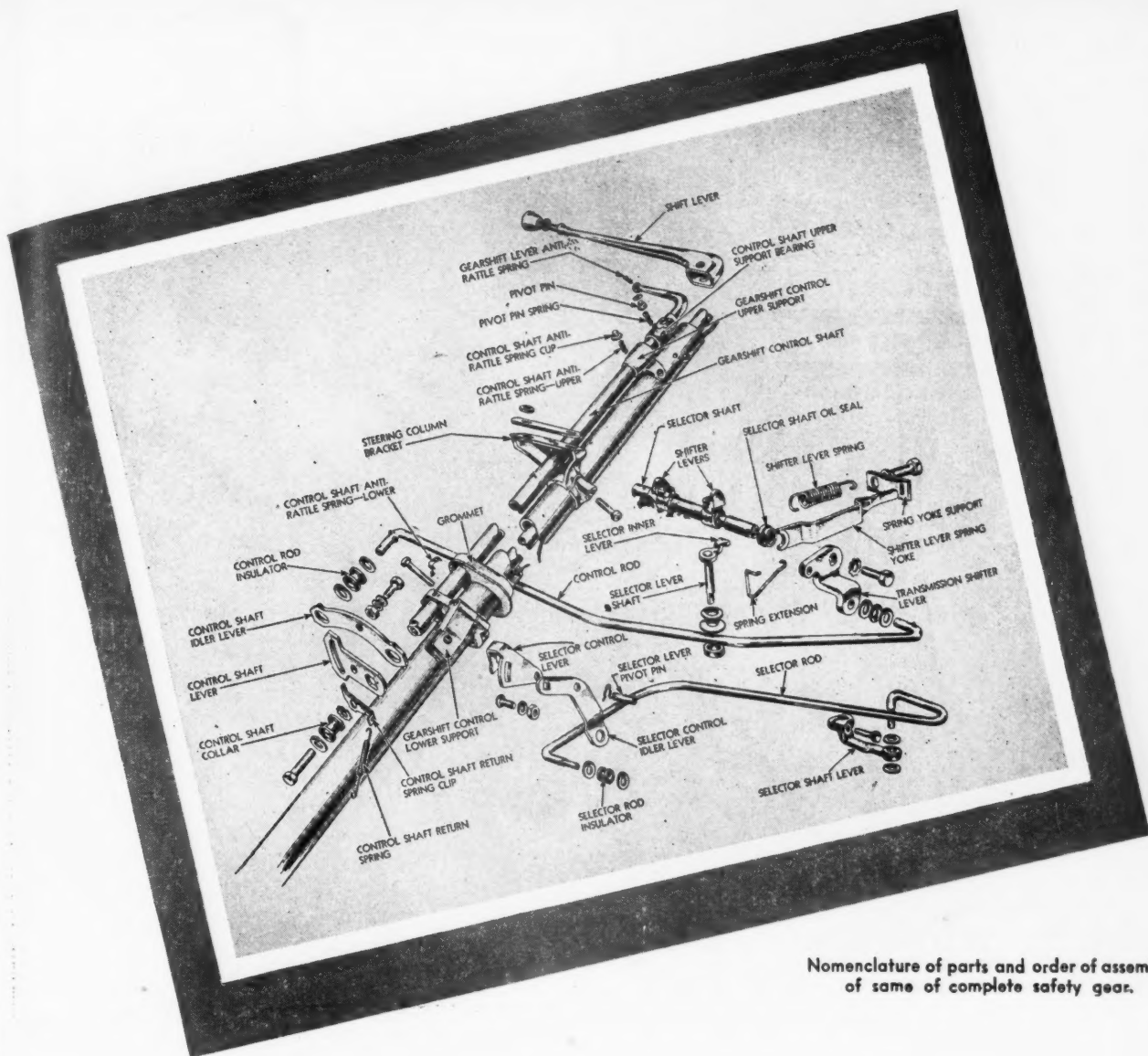
By **BOB TURNER**

THE shift lever is pivoted on pins which are located in the control shaft upper bearing which also forms the threaded bearing for rotation of the shaft. The control shaft curves and fits into the shift lever. The end of the control shaft is formed into a ball which acts as a bearing for the shift lever. Moving the gearshift lever up or down moves the control shaft up or down in its bearings. At the lower end of the control shaft is a collar which actuates the shift selector control lever which is bolted

to the shift selector control idler lever. Both levers pivot on the gearshift control lower support. The shift selector rod is connected to the selector control idler lever, and a special insulator is provided at this point to prevent transmission of gear noise to the steering column. The other end of the selector rod is attached to the transmission selector shaft lever. A return spring at the lower end of the control shaft returns the gearshift lever to the high and second speed side when the lever is moved from

any gear to the neutral position.

To disassemble the safety shift linkage, first remove the steering wheel. Next remove the gearshift lever pin. Unhook and take off the control shaft return spring at the lower end of the control shaft. Take out the pivot pin from the selector control lever and idler lever. Remove the screw at the lower end of the shift control shaft which holds the control shaft lever, idler lever and the collar in place and remove all of these parts. Do not disturb the clamp bolts which holds the levers together, so that this adjustment will not be changed. Take out the upper support screws, and pull the upper support and control shaft



Nomenclature of parts and order of assembly of same of complete safety gear.

Gear Shift

Follow this detailed procedure in servicing Pontiac safety gear shifts for faster, better maintenance work

assembly up along the steering column. Be careful not to lose the anti-rattle spring and cup which are located in a hole in the under side of the upper support. A flat anti-rattle spring is located in the lower support. To reassemble the shifter, reverse the above operations.

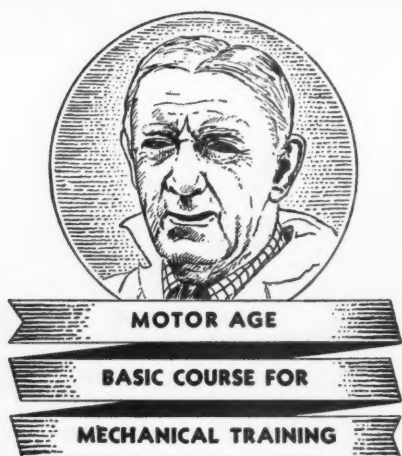
When adjusting the shift lever a clearance of $\frac{1}{8}$ in. must be maintained between the shoulder on the control shaft upper bearing and the top of the support, so there will be no binding or interference at this point when shifting gears. By screwing the bearing out of the support $\frac{1}{2}$ turn the clearance will be increased $\frac{1}{32}$ in. The shift lever position in relation to

the steering wheel may be adjusted by loosening the adjusting bolt which clamps the selector control and idler lever together.

Move the shift lever to the position desired while holding the selector rod in the "2nd and 3rd" speed position. Then tighten the clamp bolt. The gearshift lever should be adjusted in relation to the steering wheel as shown in Fig. 2. When properly adjusted the gearshift lever is approximately horizontal when it is in the neutral position. If it is desired to

adjust the shift lever toward or away from the driver, loosen the clamp bolt holding the idler lever to the short lever. Move the shift lever to the desired position and tighten the clamp bolt. When the shift lever is in the neutral position, the shift lever knob may be lowered a total of $1\frac{1}{2}$ in. from the horizontal.

An over-center spring is provided to aid in shifting gears. This spring is hooked into a yoke and fastened to the shifter lever through a spring (Continued on page 60)



By J. EDWARD FORD



Timing Valves for Better Performance

Tommy Winters begins his latest mechanical venture with a bang in this 46th article

WHEN Pop O'Neill returned from lunch, he was feeling a little drowsy. His wife had been lucky enough to find some corned beef at the market that morning and had served up a big potful with cabbage for lunch. Pop had eaten until he had to let out his belt two notches.

He took a tour of the shop to see that everybody was on the job and then went to the office. Settling into the swivel chair at the desk, he looked around for something he could do without too much effort. He picked up a booklet on front-end equipment which had come in the mail that

morning, and leaned back in the chair. He hoisted his feet to an open desk drawer and started to read.

This was comfort. He closed his eyes, not to sleep, but only to feel how pleasant it would be if he dared drop off for a few minutes. A second later he bounded out of the chair like a man who had just felt his first hot-foot. The whole shop was shaking with a series of explosions that sounded like a battery of Long Toms laying down a barrage.

Pop spun on his heel, and dashed out into the shop. The racket ceased as suddenly as it had started, and

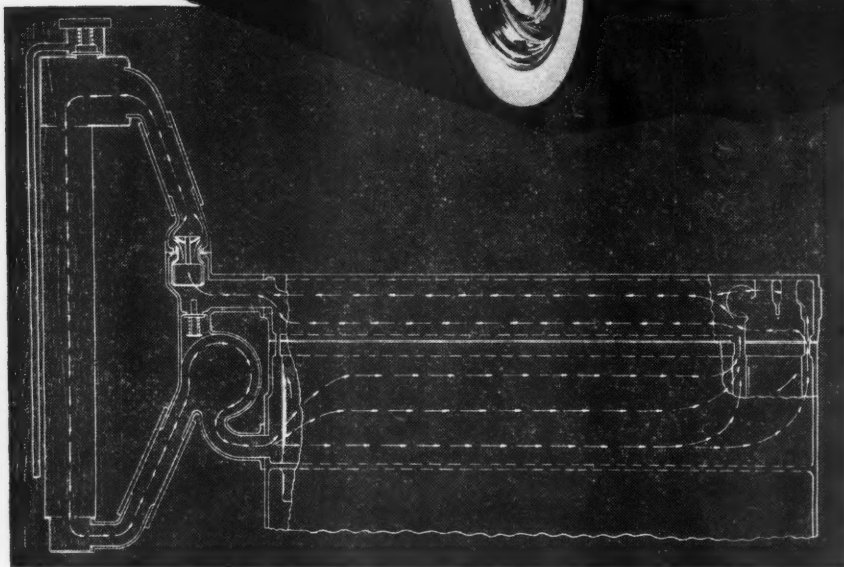
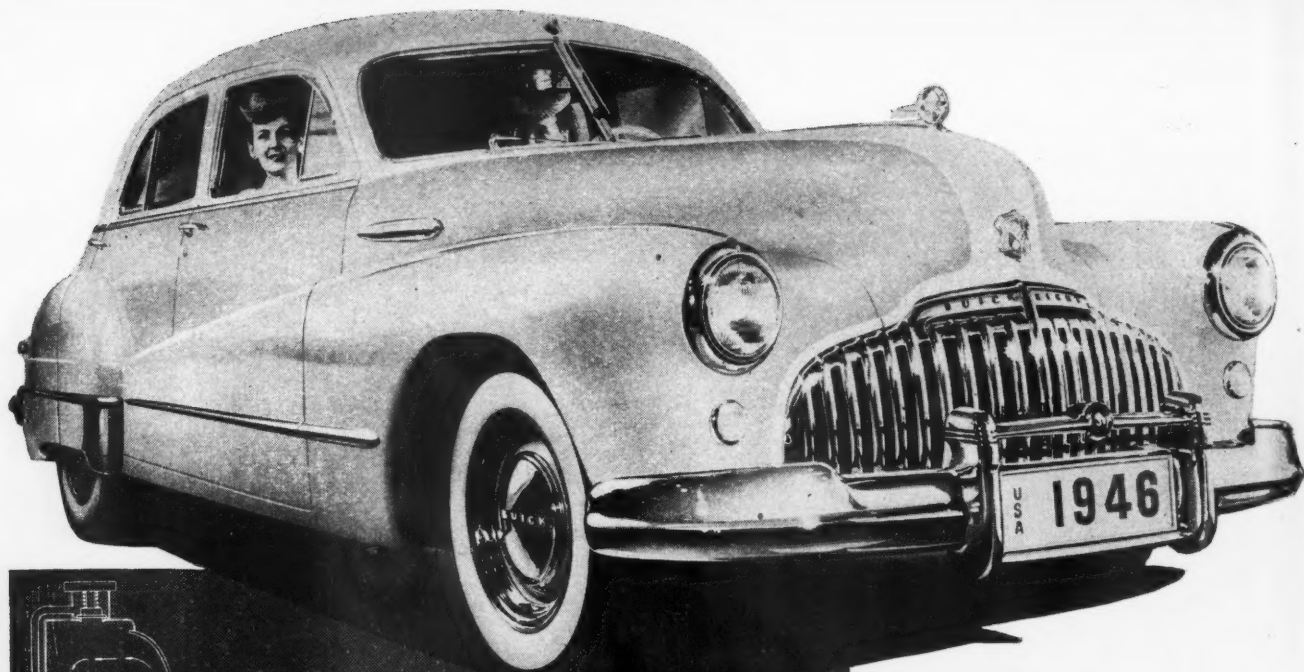
Pop stood in the middle of the shop floor, looking around with a puzzled frown.

"What's goin' on out here?" he demanded.

A bit sheepishly, Tommy Winters stuck his head around the rear of a 10-year-old sedan. "It was this jalopy," he said. "I was trying to time the ignition."

"You ain't helped it much," said Pop, walking over to the offending car. "Who's this job belong to?"

"Some bank examiner," said Tommy. "He's working over at the bank and Mr. Spender, the cashier,



A three-quarter view of the new 1946 Buick is shown here. Left, the improved water cooling system is the major change incorporated in the new series.

Buick Introduces 1946 Models

Design details and new improvements incorporated in the 1946 Buick series 40, 50 and 70

IN its announcement for the 1946 model year, the Buick Division, General Motors Corp., has released three series—the Series 40, 50 and 70. From the standpoint of mechanical design and field service features, these models are essentially the same

as the corresponding models announced in 1942. However, the new series have interesting appearance changes, and numerous improvements in materials and design details.

The engines for these models remain the same in specifications but

have certain changes common to both. The engine for the Series 40 and 50 is 8-cyl., valve-in-head, 3 3/32 in. bore x 4 1/8 in. stroke, 248 cu. in. displacement, rated 110 hp. at 3400 rpm. The engine for the Series 70 is 8-cyl., valve-in-hand, 3 7/16 in. bore x 4 5/16 in. stroke, 320.2 cu. in. displacement, rated 144 hp. at 3600 rpm.

Based upon improvements in production technique, the cylinder block is precision-bored to size, then finished with a new type hone which gives exceptional accuracy. Following honing the barrels are Lubrite-coated which is a manganese-phosphate treatment to seat the rings and provide protection against scuffing during initial run-in on the test stand.

Water circulation has been changed to provide more uniform cooling. The chamfer at the top of the cylinder bore is 20 deg. instead of 45 deg. to facilitate installation of rings.

In 1942 the Series 50 pistons had to be made of cast iron whereas the smaller volume Series 70 retained aluminum alloy. For 1946 both engines will have aluminum alloy pistons with anodized surface finish. The rings are the same as previously employed but will not have surface coating since the purpose of the coatings is now fulfilled by the lubrite-coated cylinder barrels.

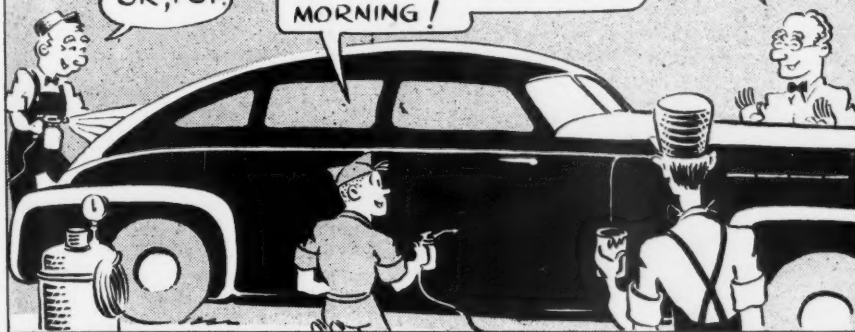
The oil filter has been removed as standard equipment. Crankcase ventilation is the same as 1942. The water pump seal is changed from
(Continued on page 68)

GI GARAGE *by ADDIS KEAN*

THIS HAS GOT TO BE A SWELL PAINT JOB BOYS.
OLD MAN GOTROX IS OUR BEST CUSTOMER!

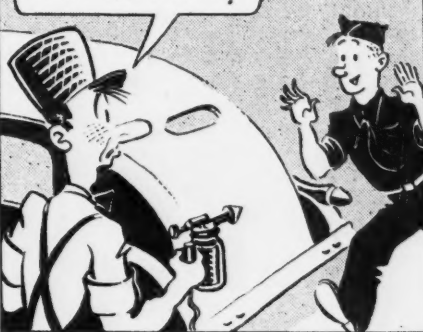
OK, POP.

HE WANTS IT TOMORROW
MORNING!



MR. GOTROX JUST 'PHONED.
HE SAYS THERE'S AN EXTRA
FIVE SPOT FOR EACH OF
US IF HE CAN HAVE HIS
CAR BY SEVEN O'CLOCK TONIGHT.

WE CAN'T GET IT
DRY IN TIME!



I'LL SHOW YOU BOYS HOW
TO DRY IT IN PLENTY OF TIME,
BUT IT'LL COST YOU EACH A
BUCK OUT OF YOUR FIVE!



OK, SHYLOCK - FOUR BUCKS
IS BETTER THAN NOTHING!

A FINE PAL YOU
TURNED OUT TO
BE, CHARLIE!



WE'LL SET UP ALL THE
ELECTRIC HEATERS WE'VE GOT
AROUND THE PLACE!



BRING ME THAT WHITE TIRE
PAINT CHARLIE, AND I'LL
DO THE TIRES WHILE
WE'RE WAITING FOR THE
BODY TO DRY!

COMING GI!



THERE GOES OUR
TIPS, BOYS!



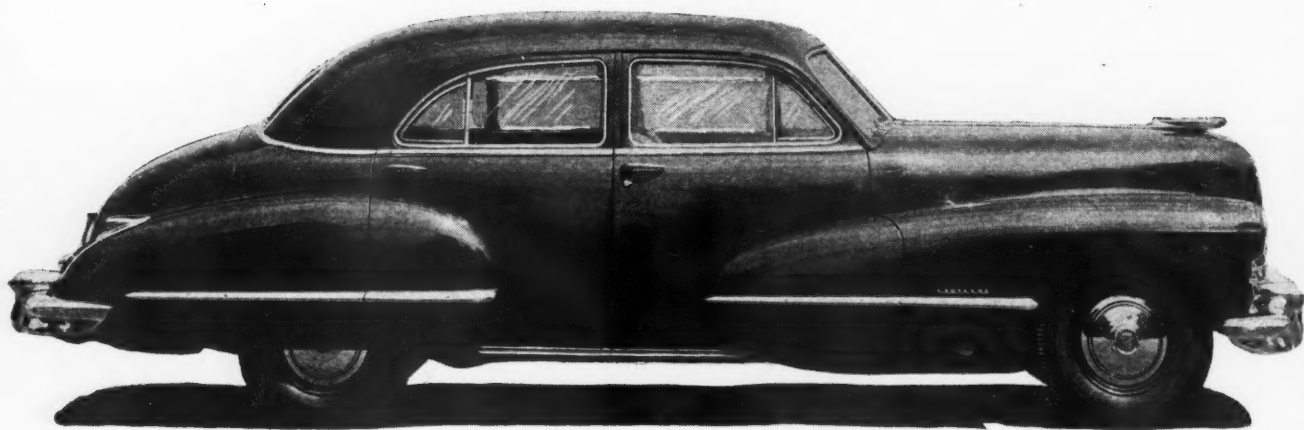
GOTROX JUST 'PHONED
..HE WON'T NEED HIS CAR
UNTIL TOMORROW.. YOU
BOYS WILL HAVE TO WORK
ALL NIGHT... AND NO
OVERTIME!



Wartime production and design
influence changes in 1946 Cadillac
models now in production



Presents 1946 Cars



The HydraMatic transmission has been redesigned for the 1946 Cadillac models. New, also, are the heavier grille and bumper.

HAVING built thousands of powerplants for use in military vehicles during the war, Cadillac is in position to offer 1946 models in which the engine and HydraMatic drive have had the benefit of war-time production and design.

Starting with the engine, we find that it is the same in specifications and rating, but incorporates many important refinements resulting from military service. The engine is a V-8, of L-head type, $3\frac{1}{2}$ in. bore x $4\frac{1}{2}$ in. stroke, 346 cu. in. displacement, rated 150 hp at 3400 rpm. Main and con rod bearings Moraine Durex type, steel-backed precision shells, improved in quality during the war. The heavy duty type aluminum alloy pistons, used in military vehicles, are continued for passenger cars. These are fitted with three rings instead of four which was the former practice. Perfect Circle rings are continued—two type 200 compression rings, $\frac{5}{64}$ in. wide, and one type 85 oil ring, $\frac{3}{16}$ in. wide.

The valve guides are ferrox treated to resist scuffing and prolong valve guide and stem life. The valve guide counterbore is $\frac{3}{16}$ in. deeper and $\frac{1}{16}$ in. larger in diameter to improve resistance to valve sticking.

The carburetor has been improved in many respects to resist sticking

in the erratic operation due to gasolines with high gum content. The choke mechanism has been redesigned to provide consistent operation by using a chrome plated choke shaft and by incorporating narrow shaft support bearings which reduce the tendency to bind with slight gasoline deposit on the shaft. An improved acceleration pump which has more positive action has been developed. This improves the acceleration during all conditions through the assurance of a correct fuel supply at all times. The choke heater stove on the exhaust manifold is a new design furnishing sufficient heat to assure consistent choke control during warm-up and insure no choking of carburetor after warm-up. The Hydramatic transmission has been redesigned to obtain greater wear resistance and provide accurate and smooth transmission operation.

The clutch hub is Lubrite treated to prevent clutch disc sticking on the transmission input shaft.

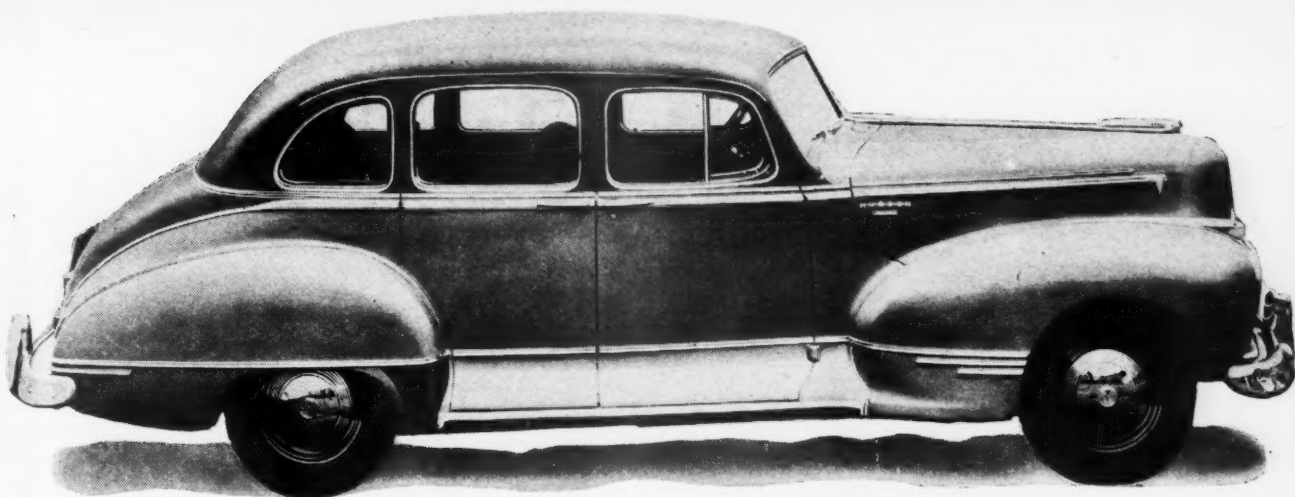
In the rear axle the strength of ring gear rivets has been increased by changing their size from $\frac{5}{16}$ in. to $\frac{11}{32}$ in. diameter.

The shifting mechanism for the standard transmission located on the lower steering column contains operating lever keys and shaft key notches of increased hardness. This eliminates operating interference and looseness caused by wear of these parts.

Offered as optional equipment, the HydraMatic transmission represents a modification of the heavy duty unit used in military vehicles. It embodies many design features developed by Cadillac which should provide exceptional service in passenger cars.

The pre-war flywheel for the HydraMatic had a separate welded-on starter ring gear. The new design has the starter gear teeth cut directly on the outside diameter of the one piece, heat treated, high carbon steel, flywheel. This avoids welding distortion and provides a design better suited to precision manufacturing. The pre-war flywheel drain plug was of socket type located in the front side of the flywheel. The plug is now located at the lowest point on the outside diameter of the flywheel cover, to provide more complete drainage with the oil stream pointing straight

(Continued on page 76)



New front end design is the most marked change in the 1946 Hudson models. Bumpers on the new model are heavy, wide and long.

Exterior and interior styling among several new changes to be found on the 1946 Hudson models

New Appearance Features 1946 Hudson

WITH new 1946 Hudson automobiles already coming off the production line, and the new models to be distributed to the expanded distributor-dealer organization as rapidly as possible, the Hudson Motor Car Company is prepared for a capacity output as rapidly as materials are available.

Hudson's 1946 models include an entirely new front end, new exterior styling and completely new interior, embodying comfort and convenience.

At the same time, major features which enjoyed wide popularity in the 1942 models have been retained—among them the Super-Six and Super-Eight motors; Drive-Master, which does away with clutch and gear lever operation in forward driving; and hydraulic service brakes which provide an emergency mechanical braking system operating automatically from the same foot pedal.

Two distinctly different "style" lines will be built—a Super Series and a Commodore Series, both on a 121 in. wheelbase chassis. Each of these series, however, will be available in both Sixes and Eights—corresponding body models of the same series being identical except for power plant and price.

Production will start with six-

cylinder models only—Eights following as soon as reconversion of eight-cylinder motor machinery can be completed. Scheduled for first delivery are 4-door sedans, to be followed by broughams and club coupes. Later, as the most urgent demand is met, 3-passenger coupes and convertibles will be added to the line.

In addition to passenger models, Hudson will start immediate production of cab pick-ups, as part of a program to meet urgent requirements for commercial vehicles of $\frac{3}{4}$ -ton size.

Chief appearance change in the 1946 Hudsons is an entirely new front end design. In the center, at headlamp level, is a newly designed adaptation of the Hudson Triangle emblem, mounted on a heavy cross bar which tops the grille, and indirectly lighted from the rear. The grille itself is much heavier than in previous designs, and is cast instead of stamped. Bumpers are heavy, wide and long, with bumper guards of tubular construction. On Commodore models, bumpers are longer and extend around the side, affording greater strength and additional fender

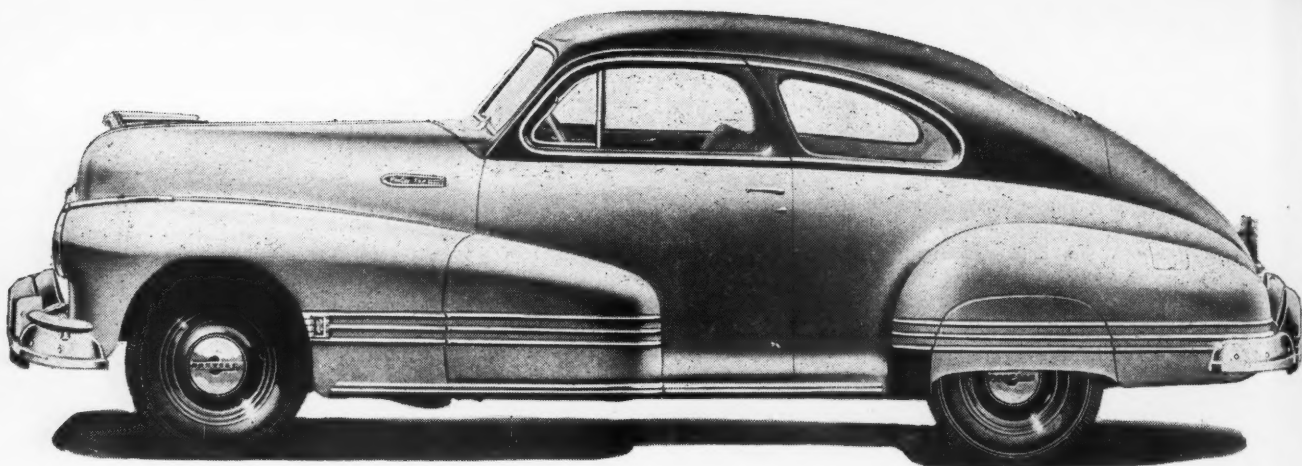
protection. Extra guards are set near the ends of the front bumper on these models.

New belt mouldings of bright metal run the length of the car and curve gracefully down at the rear. This feature is particularly well adapted to two-tone painting, which has been reversed in 1946 models, with the dark color above and the light color below.

Commodore models for 1946 carry an auxiliary belt moulding which extends the entire length of the body, with plastic Hudson Triangle emblems at the front. All models carry series identification on the hood, below the moulding.

Wide, full-length running boards are continued for 1946, but they are concealed by the flare at the bottom of the doors.

Interiors have been completely restyled in all 1946 Hudsons, and upholstery fabrics are of neutral tone—a fine shadow weave in the Super series and Bedford cord in Commodores. Airfoam seat cushions are standard in Commodore models and an extra-cost option in the Super series.



The "Streamliner" model, shown above in a side view, in its 1946 appearance. Below, a front view of the Pontiac model.

New *P*ontiac Models Announced

THE initial manufacturing program of Pontiac for 1946 marks the release of one line—the Streamliner Model on 122 in. wheelbase with either the Six- or Eight-cylinder engine, with one body style—the two-door sedan. Engine specifications remain the same—Six, 6-cylinder, L-head, 39/16 in. bore x 4 in. stroke, 239.2 cu. in. displacement, rated 90 hp. at 3200 rpm. The Eight, 8-cylinder, L-head, 3¼ in. bore x 3¾ in. stroke, 248.9 cu. in. displacement, rated 103 hp. at 3500 rpm. Approximately 30,000 cars are scheduled for the remainder of this year.

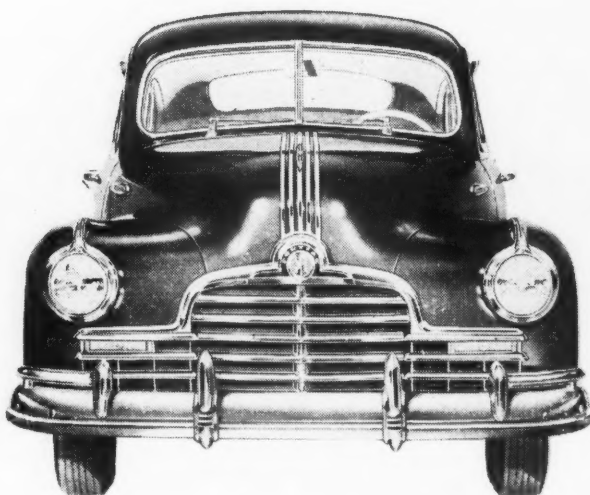
From the standpoint of mechanical features, Pontiac has effected certain changes designed to improve performance and based, as usual, upon service history. Some of the major changes of this character are discussed below.

In 1942, the Six was fitted with a 9½ in. Inland single disc clutch. For 1946 both the Six and Eight will have the same 9½ in. clutch.

Formerly the intake manifold gallery on the Six was made parallel with the crankshaft. Now the casting has been changed so as to make the gallery parallel with the ground. This should be of particular interest to dealers and service men. The life of the muffler is expected to be increased with the adoption of heavier stock,terne plated. In addition, the muffler will be more quiet. Tail pipes are coated both inside and out with aluminum for longer life.

The original mechanical control of metering of the carburetor has been

"Streamliner" model to make its 1946 appearance embodying several new major changes



changed to a combination of mechanical and vacuum control. Piston pins are shot peened, before grinding, primarily to provide a multiplicity of tiny oil pockets offering improved lubrication in the bushings.

The water distribution tube for the

valves now is made of brass instead of coated steel to increase life. Exhaust valve guides have deeper counterbores at the upper end to eliminate valve sticking under continuous low speed driving.

(Continued on page 72)

MOTOR AGE
PICTURE
GALLERY



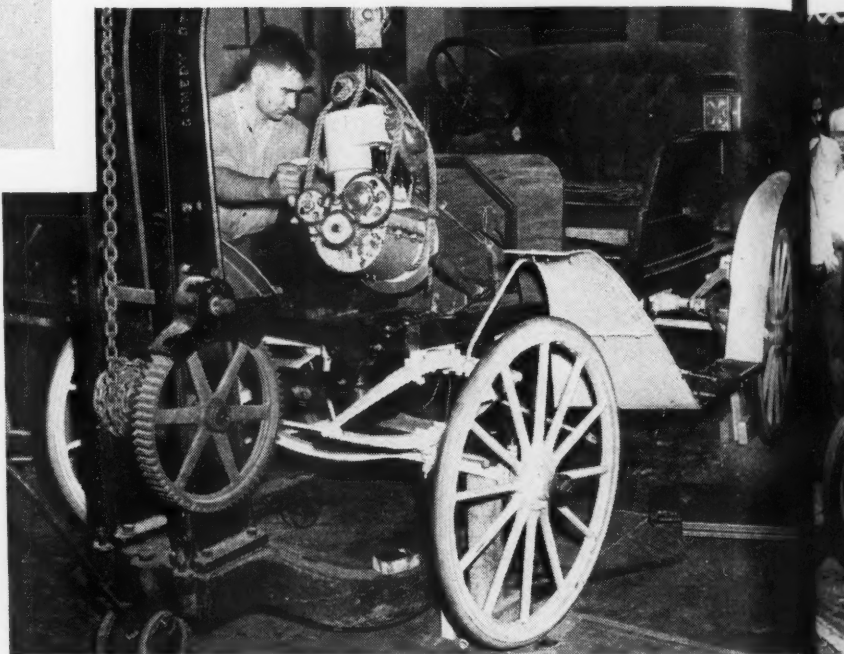
Hallowe'en with its goblins and witches takes on a new note as lovely Vivian Austin models the latest thing in witchery. Broomsticks for civilian witches are still frozen.





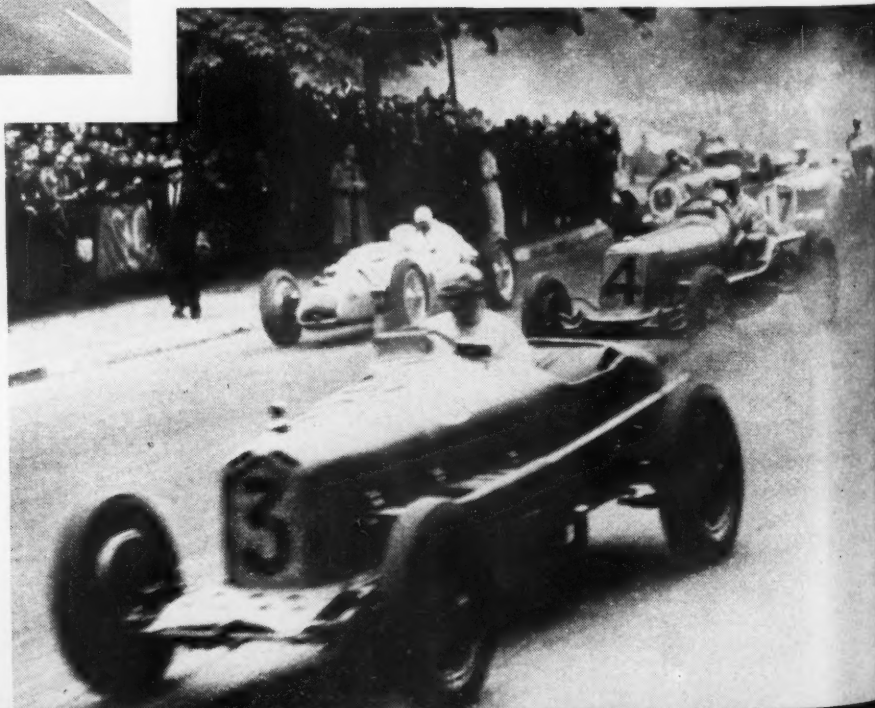
This lavish, silver-mounted and beautifully tooled leather saddle done by an ace craftsman is probably headed for a corral in the Naval Academy museum. The Reno, Nevada, chamber of commerce ordered it for Admiral William F. Halsey's ride through Tokio streets.

This two-cylinder Mier, shown being overhauled by a mechanic, will probably be a triple-threat contender in the auto race to be recreated at Chicago, Ill., to commemorate the Auto's Golden Anniversary scheduled for November. It is kept at the Museum of Science and History of that city.



The return of gasoline is sweet music to motor racing fans as well as motorists. "Pappy" Strum, shown here, smashed two world records for Class "D" runabouts at Florida before a large crowd in the first officially sanctioned regatta of the American Boat Association.

Parisians lost little time in staging an auto race, the first of its kind, since 1939. France, well known for its prewar auto racing, is the first European country to revive the thrilling sport.



Pressed into use because of the manpower shortage, Connecticut touring motorists view these life-size "pin-up" police, holding warning signs at dangerous locations. Taking a close look at one of the figures are little Carol Holston and Jeanette Houde.

Threading his way through the heavy traffic of Detroit streets, W. D. Burns, Texas auto dealer, begins the first leg of his tractor test run from Detroit to Welm, Texas, a stretch of 1574 miles. It was the first official AAA test run since Pearl Harbor.



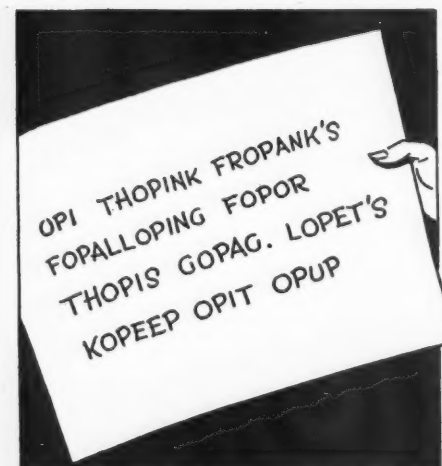
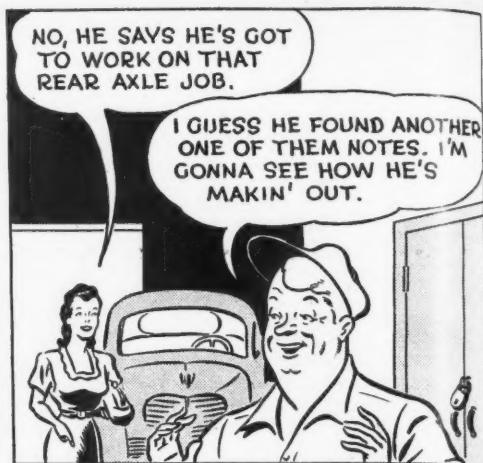
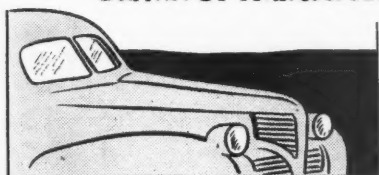
When a man munches an ear of corn, it isn't news, but when a dog nibbles kernels off the cob, it's food for thought. The dog is owned by Mrs. Von Motzck, a dog trainer, who maintains dogs can eat anything humans can. Pass him another ear of corn!



FRANK

THE FIXER

STORY BY J.E.FORD
DRAWN BY A.L.CASSEL



New Styling on Studebaker



New grille and bumper are among a few of the features in the Studebaker Champion series.

FRESH new styling, improved riding qualities and luxury appointments mark the new automobile models announced by Studebaker.

Four body types in the Champion series, will be manufactured in 1945. Production schedules promise a complete sampling for dealers within the next month.

The first passenger cars to be built by Studebaker since plant facilities were converted to war manufacture carry more numerous advances than the four-year blackout of research on civilian products would indicate.

New styling introduces the "Skyway" motif in a wide variety of colors to the lowest price field. A bright, new grille, with horizontal members extending virtually full-width across radiator and fenders, complements the lines of the car. Rugged bumpers with vertical guards are also new.

Both in exteriors and interiors the new models include many interesting features. Now standard are such features as deluxe steering wheels; automatic dome lights in all models; automatic rear compartment lights in four-door sedans; and bright metal for body sill finishing strips, windshields, and rear and side window moldings. Twin air-tone horns, dual sun visors and windshield wipers, and arm rests on both front doors are

"Skyway" motif is featured by Studebaker in four body types in the 1946 Champion series

other features. Interiors are made additionally notable by the use of a rich wool Bedford cord as the upholstery cloth.

The Champion six-cylinder engine, that as the power unit for the war-famous Weasel is continued substantially unchanged. Worthy of comment among engine changes is the return of aluminum alloy pistons which were discarded in 1941 due to the scarcity of aluminum as a war material. The substitution of aluminum for cast iron reduces piston weight by more than half.

Chief among chassis advances are the newly designed springs. Spring action has been improved by tapering the ends of the leaves and the introduction at both front and rear

of oil-impregnated, full-length inserts known as Flex-o-liners. These inserts tend to reduce interleaf friction and to assure smooth, soft spring action. Combined with the planar front springing, the development provides improved riding qualities. Shot peening has been continued for all of the spring leaves.

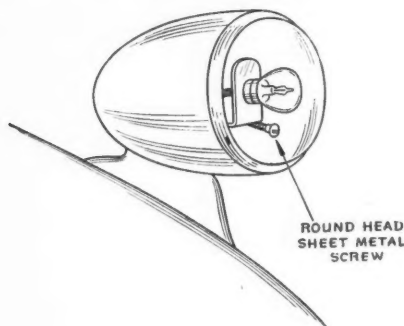
Automatic choke, floto oil screen, large capacity air cleaner are features. A 15-plate battery replaces the previous 13-plate. Transmissions have helical, silent gears throughout. Overdrives, assuring more gas mileage at higher speeds, hill-holders, and the Climatizer, which gives forced air circulation for both winter and summer driving, are among the accessories available at extra cost.

\$5 SHOP KINKS

Here's your chance to pick up a little extra money. We'll pay five bucks (\$5.00) for every Shop Kink accepted and printed. So send 'em in to us — some short cut you use in doing a job easier and faster than the other fellow — some special tool you made when you couldn't buy one to do the job — and we'll do the rest. Incidentally we won't accept any that have previously appeared in any other automotive publication. We've accepted these for this month's edition of M. A.

Bulb Support Repair

We get a number of cars in our shop with poor ground connection in the tail light causing dim or no light. We find that the bulb base support has rusted or become loose. To overcome this, we screw in a sheet metal screw between the lamp body and the bulb base support.—*Vito Fresolone, 1070 Salem Road, Union, N. J.*



Carburetor Flat Spot

A few months back you had an article by another fellow mechanic pertaining to a flat spot in a Chevrolet carburetor after having cleaned and adjusted same.

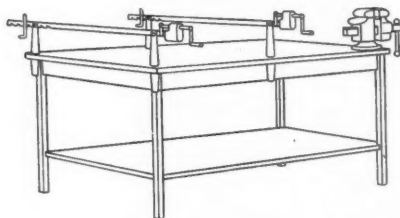
I have run into the same trouble, only I went a little further. I replaced all the parts available in a carburetor repair kit. Still that old flat spot.

Made two short $\frac{3}{8}$ in. studs and with a plain carburetor flange gasket replaced carburetor. Next I wired the heat riser valve in the closed position. This last operation readily fixed it. You could tramp as hard as you wanted on the accelerator and you got a quick response from the engine.—*Daniel Disabato, Habich Bros. Motor Sales, Inc., 13210 S. Western Ave., Blue Island, Ill.*

Body Shop Bench

We have built a small work bench for use in our body shop. We can work fenders, hoods, doors and deck lids on it with complete satisfaction.

This bench is 60 ft. long, 30 in. wide, with 2 in. material used for the top. A small swivel vise is mounted at one end to hold fenders, etc. The top extends 2 in. over the edge allowing space all around for clamping. Four sockets are bolted to sides for stakes, which fit in a tapered hole so they remain tight, the stakes are slotted at the top, 2-4 ft., body clamps are bolted with $\frac{1}{4}$ in. bolts. These long adjustable clamps hold door securely while working on them and will hold all sizes and shapes. This arrangement can be moved anywhere in the shop by one man.—*Leonard Grissom, Talbot Motor Service, 320 N. Talbot St., Indianapolis 4, Ind.*



Dent Straightening

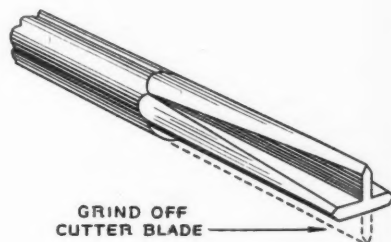
An easy way of roughly straightening dents out quickly is to drill a small hole in the center of the dent, and insert a piece of steel rod with a hook formed on the end. A quick solid yank will pull the dented portion out reasonably well so that it may be spruced up.—*William Delach, 115-45th St., Pittsburgh 1, Pa.*

Removing Mufflers

I have made a very satisfactory tool to remove mufflers easily.

This is a hard job, or can be, if you lack the proper tool to do the job. With the tool described below, the job takes less time.

Use either a 5/16 or a $\frac{3}{8}$ inch star drill and grind off one cutter blade. Do not overheat the drill while grind-



ing. Driving the tool along the exhaust and tail pipe couplings will split them, and the muffler can be removed very easily.—*Edgar L. Simpler, 6730 Greenway, Philadelphia 42, Pa.*

Replacing Shackles

We are frequently called on to replace spring shackles in Ford cars and unless you have special equipment to do this job, it is very difficult.

We have found an easy method of doing this job by packing the new shackle in dry ice for a short time. The shackle can then be pushed in the spring eye by hand.—*Arthur Langman, 910 S. 5th St., Philadelphia 48, Pa.*

NEWS FROM STUDEBAKER DEALERS

"We have the brightest future in the industry!"

That's the consensus of Studebaker dealers from coast to coast as factory reveals plans

MEETING CONFIRMS OUR BELIEF STUDEBAKER

DEFINITELY GOING TO THE TOP

YOUR PLANS AND YOUR WILLINGNESS TO TAKE

DEALERS INTO YOUR CONFIDENCE ARE ON THE BEAM

MORE ENTHUSED ABOUT STUDEBAKER THAN

EVER BEFORE AND PREDICT A BRIGHT FUTURE

AM CONFIDENT THAT WE HAVE GREAT

OPPORTUNITY OF ALL TIME

WE HAVE THE BRIGHTEST FUTURE IN THE INDUSTRY

THANKS TO YOUR IMMEDIATE AND LONG-RANGE PLANS

VERY HAPPY TO BE AN ADDITION TO THE STUDEBAKER

FAMILY. CAN SEE NOTHING BUT HAPPY DAYS AHEAD

NOTHING that Studebaker itself might say about the value of its franchise could be half as convincing as the opinion of its dealers.

Most of those dealers have been flying the flag of Studebaker a long time but new names are also numerous now on the Studebaker dealer roster. And they agree to a man—old dealers and new—that no group of retailers in the automobile business has a brighter future than theirs. A few of their telegraphed comments are reproduced alongside.

With brilliant engineering skill, the finest production methods and unique father-and-son craftsmanship, Studebaker is all set with plans and action programs that are devised to make its car and truck selling franchise a superior opportunity for dealers throughout the nation.

The right merchandise plus intelligent co-operation in helping dealers move it combine to assure the continuance of Studebaker's enviable reputation as "America's Friendliest Factory."

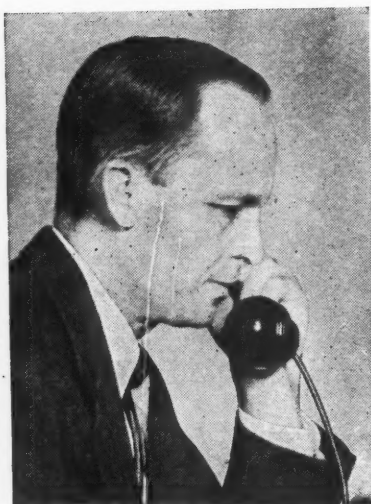
Studebaker

South Bend 27, Indiana, U. S. A.

PIONEER AND PACEMAKER IN AUTOMOTIVE PROGRESS

STUDEBAKER'S FUTURE IS BRIGHTER THAN AT

ANY TIME IN MY TWENTY YEARS' ASSOCIATION



Bill Toboldt, Editor, Motor Age

THE READERS'

CLEARING HOUSE

of Servicemen's Queries



Overheating Problem

One of our customers owns a 1936 Nash which has given considerable trouble from overheating.

The radiator has been boiled out, thermostat removed and an entire new water pump assembly installed of the latest type; valves and other mechanism of that sort have been checked, as well as timing. This has all been done over a period of a year and now the car still heats.

Can you give us any information regarding this trouble?—A California Subscriber.

I BELIEVE the overheating trouble you are having with that 1936 Nash is due to the fact that the cylinder block has not been cleaned out. You have mentioned that the radiator has been cleaned, a new thermostat and a new water pump installed and the motor properly tuned, but you do not mention that the cylinder block has been cleaned out. If this has not been done, it is easy to understand that the circulation of the cooling system is taking the rust and sediment from the block and dumping it up into the radiator, which results in the radiator becoming plugged up again.

My first suggestion is that you again clean the radiator and also that you clean out the block, flushing it thoroughly in a reverse direction to normal flow. In other words, the cylinder head and block as an assembly should be flushed from the top to the bottom after having first been treated with a cleaning solution.

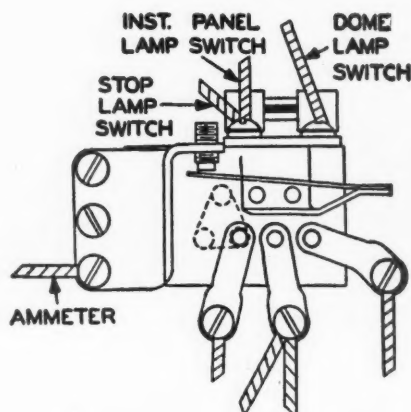
Pontiac Light Switch

Once in a while we get a complaint about the 1940 Pontiac stop-light switch being damaged by burning out, and in each case we have found a short in the stop-light wiring circuit.

Isn't there some way we can put a fuse in this circuit to prevent this trouble?—An Atlanta, Ga., Subscriber.

YES a change was made in the 1940 Pontiac lighting switch during the 1940 production, so that a fuse could be inserted in this circuit.

The fuse can be purchased from your Pontiac dealer under part No. 147684. Illustration shows the new lighting switch, designed to take this fuse.



Oil Consumption Trouble

One of our customers has a 1939 Buick that is developing into a problem child.

The first owner drove it about 11,000 miles. Because it began to use a quart of oil in less than 100 miles, he traded it. The second owner complained of the same trouble, and reported fouling of plugs. He had a complete motor overhaul—valves, carbon, rings and new rods.

In less than 100 miles the plugs started fouling again. Also, the oil pressure would stay up to 35 until the car was driven about 25 miles, or until it warmed up good, and then the pressure dropped back to zero. He took the car back to the mechanic who did the job and who insisted there was nothing wrong. He cleaned the plugs again. The owner became dissatisfied, and traded the car.

Now one of our customers has it, and is complaining of the same trouble. Different heat range spark plugs are being used now, and the fouling is not as bad. But the engine still uses too much oil, and the oil pressure drops back to zero after the engine is warm.

In view of the past history of this car, we thought it advisable to ask for your suggestions before we go into the trouble—An Ohio Subscriber.

EXCESSIVE oil consumption is a rather common complaint, and yet is one of the most difficult to correct because the average mechanic does

(Continued on page 42)

McQUAY-NORRIS PISTON RINGS

"GIVE OLD MOTORS NEW MUSCLES"



We recommend the use of many rings—the right ring for each individual groove, contained in the right set for each type of application. That's why we produce not one—but four piston ring lines.

**ENGINEERED
SET
PISTON RINGS
FOR
RE-RINGING**

**REBORE-REBUILD
EXPANDER
PISTON RINGS
WITH
IRON EXPANDER
RINGS**

**SERVICE SPECIAL
PISTON RINGS
WITH
STEEL EXPANDERS
FOR DEALERS' SERVICE
DEPARTMENTS**

**FACTORY TYPE
SET
PISTON RINGS
FOR LARGE BORE MOTORS,
SLOW SPEED MOTORS
AND SLIP-IN JOBS**

Clearing House

(Continued from page 40)

not go into the trouble deep enough. No doubt you have found this to be true in your experience.

There are five general causes for this condition, and each one has to be checked in order to do a thorough job. First of all is, of course, the fit of the piston rings. In this case, new rings have been installed with no beneficial results, so it would seem that the rings were not the cause, assuming, of course, that a good grade of rings was used, and that the job was done carefully.

I note that new rods were installed; nothing is mentioned about the mains. I recommend that a pressure test of the bearings be made to determine the fit. I am inclined to the opinion that the bearings, particularly the rod bearings, are throwing off so much oil to the cylinder walls that the rings are unable to control it, and it is leaking past to the combustion chamber. If this is the case, it is not the fault of the rings, but of the bearings. If you find excessive throw-off, it will probably be due to the fact that the shaft journals are worn out-of-round. New rod bearings will not help; the journals will have to be turned true

and undersize bearings installed. Excessive oil throw-off at the bearings is the second cause of high oil consumption.

The third cause is worn intake valve guides, and is an item that is generally overlooked by the average mechanic. I would check the fit of the valve stem in the guide, and, if it appears excessive, I would install valve guide packing in an effort to control it, or install new guides and new valves.

The next cause, and incidentally one of the first things to check before going into the engine, is the diaphragm in the vacuum pump. This car was equipped with a combination fuel and vacuum pump, the vacuum side to provide steady vacuum for the operation of the windshield wiper. If this diaphragm is cracked, it will cause excessive oil consumption by admitting oil to the intake manifold. The condition of the vacuum pump can be checked easily by disconnecting the line at the manifold, and holding a piece of white paper over the end while the engine is running. If the diaphragm is cracked, oil spray will show up on the paper.

The fifth cause, and one that should be perfectly obvious, is external leaks. Your letter did not mention what had been done in checking for this condition. The rocker arm cover gasket, valve lifter cover plate gaskets, oil pan gasket, front and rear main bearings and the plug at the rear of the camshaft are the points that will have to be checked for leaks.

I would first check the vacuum pump, and check for external leaks. However, in view of the fact that you mention falling oil pressure when the oil is warm, I believe you will find the major cause of trouble in this case to be a crankshaft that is worn out-of-round. The oil pressure test of the bearings will show this up, and, if it exists, the only way you will be able to eliminate the trouble is to have the shaft journals turned true and then install rods with undersize bearings. The mains should be checked, too, but usually the trouble is in the rod bearing journals.

(Continued on page 46)



NOT ALL GOOD THINGS COME IN NYLONS

Quick as anyone to admire a pretty girl . . . or a pair of Nylons, properly filled, we can't help but mention *other* things that are important, too! Like making money—for instance.

Yeah, take most fellows that run a garage or repair shop. They're pretty good judges of values; they know a good thing when they see it—whether it's a girl or a product.

That's why, over a period of 14 years, the wise ones have learned to depend on

SERCO products. Labor savers, time savers, and money savers, *every one of 'em*. You'll find plenty of times when you can charge for the work a SERCO product does for you. Ask your jobber about SERCO GUARANTEED AUTOMOTIVE CHEMICALS for making your profits bigger, and easier.

From Maine to California, in South America and Canada, in Mexico and Africa, these SERCO products are making and keeping friends

SERCO—the non-injurious liquid guaranteed to permanently seal cracked cylinder heads, cracked blocks and leaky radiators.

RUSGO—for reconditioning old anti-freeze. Neutralizes and prevents rust. Prolongs life of cooling systems.

KI-MO—for cleaning radiators. Removes scale, rust, slime and sediment.

NOXO—a motor revitalizer. More than a tune-up oil. Frees pistons, rings and valves. Prevents engine varnish.

SHAMO—a new greaseless, soapless auto cleanser. Cuts car washing time in half . . . requires no wiping.

REESO—the perfect hand cleanser. Dissolves and removes oil, grease, dirt, paint, acids, stains. Does not harm skin.

SOLVO—for cleaning carburetors, fuel pumps and distributors. Returns metal to factory finish. Harmless to metal . . . can be used over and over again.

A can of SERCO and a can of RUSGO mixed with radiator fluid prevents rust and loss of valuable anti-freeze

SERCO PRODUCTS

Service Supply Co.

1115 - 7th Street, Denver 4, Colo.



New Ford Model Previewed in East

The first preview since Pearl Harbor of a new model automobile was staged in Philadelphia late last month by the Ford Motor Company for newspapermen and Ford Dealers of the Chester Branch area. On display were the new 1946 Fords which arrived from the Company's Dearborn Plant Production Line. Mr. C. R. Beachman, regional manager, acted as host to approximately 300 dealers.

Maremont Muffler Removal and Installation Kit.....

.... A Great Time Saver!

AND YOU CAN GET IT WITHOUT EXTRA CHARGE!

- Cuts installation time.
- Increases your sales and profits.
- It's the modern, easy way.
- Lessens danger of accidents.
- Eliminates use of torch and fire hazards.
- Gives your customer quicker service.
- Gets cars off the lift or pit quickly.

PIPE PEELER

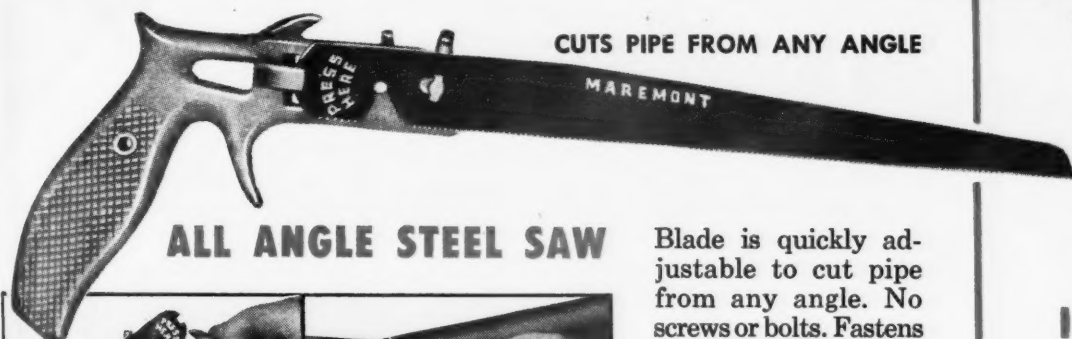
Peels back clean narrow strip breaking rust-tight connections; no rough jagged edges. There's no danger of injury. No sharp points to break off. Only a few quick blows with a hammer and the job is done. Can be used on every muffler job.



ACTUAL SIZE OF CUTTING TIP



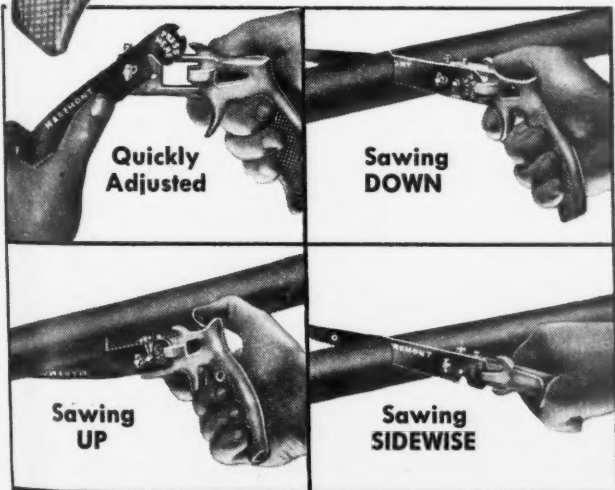
PIPE PEELS BACK



CUTS PIPE FROM ANY ANGLE

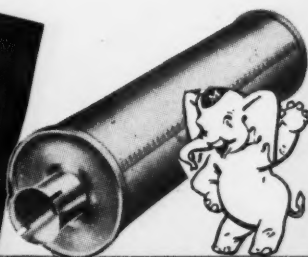
ALL ANGLE STEEL SAW

Blade is quickly adjustable to cut pipe from any angle. No screws or bolts. Fastens automatically on patented pistol grip handle. A tool of great value in any service shop.



INSTALLATION CHART

This chart gives detailed instructions for removing and installing all types of mufflers and pipes.



Ask Your Jobber or Write Direct to . . .

MAREMONT

MUFFLERS

SINCE 1877

MAREMONT AUTOMOTIVE PRODUCTS, Inc.
South Ashland at 16th • Chicago 8, Ill.
Makers of Maremont Alloy Steel Springs

Ford Waives Option To Willow Run Plant

The Ford Motor Co. late last month announced the waiving of its option and purchase rights to the land and buildings of Willow Run, but retained a six-months right of first refusal.

H. L. Moekle, secretary of the company, said that the action was taken voluntarily "to assist the government in case other opportunities are available for sale or lease of the property."

He explained that the option, which gives Ford the right to buy all, but not part, of the bomber facilities at cost, less normal depreciation, would

be for 90 days duration after the company's lease is terminated September 20.

Ford's decision to waive the option, he said was influenced by the fact that the option rights include the entire facility, including many tools and equipment not suitable for automobile production.

By retaining the right of first refusal, Ford would be able, for six months after the termination date (Sept. 20), to meet the best offers obtained by the government for the plant or items of equipment. After this six months period, Ford would be able to negotiate for the purchase of any or all the facilities.



GATKE gives you FIRSTS for ALL 3

Whatever the needs or preferences of your brake lining customers GATKE Jobbers can give you the answer.

The *exclusive* features of GATKE Grooved Dura-Blok Blue Ribbon Sets — *for the man who wants the best.*

The recognized long service and dependability of GATKE Custom-Bilt Brake Blocks for Trucks, Tractors, Trailers, Buses and heavy duty equipment.

The *Extra Value* at Low Cost of Standard Car Sets.

It will pay you to get acquainted with these and other GATKE *business winners and Good Will builders.*

Also inquire about GATKE Tell-All Labels on Boxed Sets; GATKE Simplified Catalogs and the unique GATKE *System of Personalized Advertising* which is shipped at once on the order of your GATKE Jobbers Salesman.

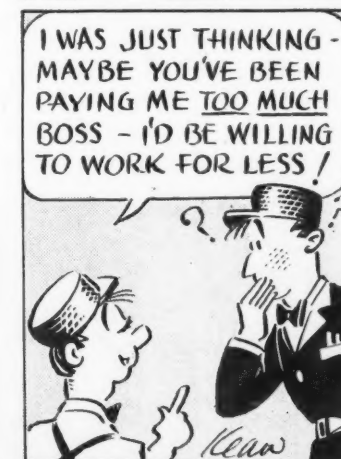
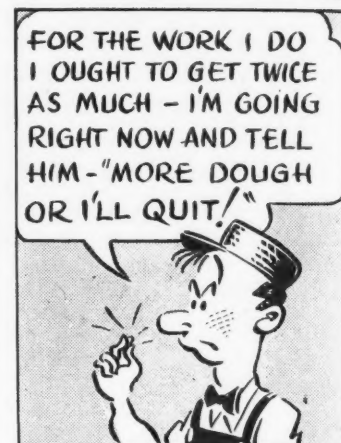
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QUALITY

- INTRODUCED** Genuine Molded Brake Lining for Automotive use.
- ORIGINATED** Wire-Back Moulded Brake Blocks.
- DEVELOPED** the first patentable Automotive Brake Lining.
- PIONEERED** CUSTOM-BILT Brake Lining Sets.
- LED** the development of Brake Blocks for Trucks, Trailers and Buses.
- CHAMPIONED** the correct balance between liners of primary and secondary shoes as essential to maximum brake efficiency.
- PERFECTED** the Simplified Brake Survey System for Fleet Operators.
- INITIATED** Standard Quality at low cost in the Standard Brake Lining Program.
- PROMOTED** Simplified Brake Lining Catalogs.
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BLOCKS SETS ROLLS SHEETS
GATKE CORPORATION 228 N. La Salle
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"Smooth Going"

**FOR YOUR CUSTOMERS
AND YOURSELF**

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Dependable Champion Spark Plugs insure "smooth going" in both the literal and figurative sense of the phrase.

Stocking and selling Champion Spark Plugs also insures "smooth going" because Champions provide maximum sales, turnover and profit opportunities.

These facts are a matter of record, and Champion's new prestige gained in the wartime service of the nation at home and abroad is a further guarantee that Champions now offer you greater sales opportunities than ever before.

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CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO



You need Dependable
**CHAMPION
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This window poster lithographed in full color is available to Champion dealers through jobbers and Champion representatives. Order now, and tie in with national advertising scheduled in leading national magazines and farm papers. Size 14" by 27", gummed top and bottom.

Clearing House

(Continued from page 42)

Car Lacks Speed

I am wondering if you can give me some information on a 1929 Model A Ford roadster. The car does not have the speed or pickup that other Fords of the same model and year have. The top speed of the car is about 45 m.p.h.

Three years ago the cylinder block was rebored to .030 in. oversize. A new cam gear, new distributor shaft and bushings, new electro-lock, new points, plugs, condenser, coil, valve springs, new carburetor jets and all new engine gaskets were installed at this time. About a year ago, a new muffler was installed. The compression pressure is good. Ignition timing has been checked. The clutch does not slip and there is no brake drag. The car starts very easily and idles well but does not have any power on hills, or any speed.

I have tried different ignition point settings from .018 to .022 in., also different spark plug settings from .032 to .035 in.

Any help you can give me on this will be greatly appreciated—A California Subscriber.

IT would seem that you have checked almost everything on that Model A Ford in an endeavor to increase the top speed. I note you have installed a new distributor shaft and bushing. Does this include the coupling shaft which connects the distributor shaft to the cam shaft? If it does not, I would strongly recommend that a new one be installed, for if this tongue-and-groove connection is worn it will seriously affect your top speed.

As long as your new electro-lock cable was produced by a reputable company, I do not think it would have any effect on your car's performance.

You state that the compression is good on the cranking test. The standard cylinder-head compression should be about 65 lb. On the special Ford heads which were later available, compression pressure was about 75 lb.

I would also suggest that you check the valve timing. On this engine, the intake valve should open $7\frac{1}{2}$ deg., or just over two flywheel teeth before top center.

You make no mention of having installed new valve guides. If the valve stems and guides are badly worn, you will get erratic valve action and reduced top speed. It is, therefore, advisable to check the valve stem and guide clearance to make sure that it is not excessive.

It is also possible that sufficient wear has taken place since the engine was overhauled that it is again necessary to at least install new rings. This is particularly true if there is

any blow-by, or if the pressure is not up to standard as indicated by a good gage.

If you do not find the difficulty in some of the points I have outlined, I am inclined to believe that some of the parts you have installed are defective.

Truck Transmission Noise

There is a GMC truck in our shop with a 400 series motor in it. When it was brought in, there was a dull, grinding noise about the transmission. Examining it, I found the clutch-pedal pull-back spring was weak and allowing the throwing out bearing to carry the weight of the clutch pedal. A new spring corrected that, but, when the clutch pedal is pressed down to shift gears, the throw-out bearing grinds. Is there any remedy besides pulling the transmission and installing a new throw-out bearing?

A T-18-H GMC truck with an Eaton two-speed rear end, was brought in for an overhaul, and to have everything replaced that showed wear. When the truck is empty, the Eaton axle throws out of gear, but

with a load on there is no trouble. The rods and shifter lever are clear and not rubbing. What do you suggest?

We also have a 1941 DeSoto coupe with an air-conditioning heating outfit in it. This fall it did not heat. We put on all new hose. This car has steel pipe with short lengths of heater hose to make connections. I checked the heater units, and blew them all out. They are all clear. Installed a new thermostat, still it does not work. I pulled hose loose from top pipes on heater units, and bled air out of small holes provided. This helps some, but the next time the motor is started, air must be bled again. Radiator is as full as possible without running over. What do you suggest on this one?—An Ohio Subscriber.

THERE is no way of overcoming the grinding noise you are experiencing in the throw-out bearing on your GMC truck other than by installing a new bearing.

In reference to the trouble you are having with the heater on the 1941 DeSoto, it would seem to me that, if you are absolutely sure that there were no obstructions in the heater or

(Continued on page 48)



"But, officer — it makes my fire insurance cheaper!"

Here It Comes...



★ A still bigger magazine and farm paper schedule; an intensive nation-wide spot radio lineup; a powerful new kit of dealer selling helps, and again the sensational Casite Double-Your-Money-Back guarantee . . . Combined, they give you a Casite Fall and Winter campaign that tops anything yet. See your jobber. Tie in and cash in with Casite NOW!

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LIST PRICE 65¢ A PINT

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or "Double-Your-Money-Back"

We guarantee that any motor capable of being started in a warm room will start promptly in the coldest weather when Casite is added to the crankcase according to instructions. If your car fails to start quickly, you get double-your-money-back by filling out guarantee certificate and mailing it to The Casite Corporation, Hastings, Michigan. Maximum refund is \$1.30 per pint, twice the nationally advertised price of Casite.

GIVES BETTER AND SMOOTHER PERFORMANCE ALL-YEAR-ROUND

Clearing House

(Continued from page 46)

heater hose so that you have a free flow of water, your trouble is probably caused by the use of a thermostat that operates or opens at too low a temperature.

If your water pump is circulating the water, and there are no obstructions in the cooling system, you should have no difficulty getting heat. That is provided your thermostat opens at about 180 deg. This, however, applies if you use a permanent type of anti-freeze. If you can't get this, you will have to use the evaporative type of anti-freeze, and a thermostat which opens at about 160 deg. And then you won't get very much heat.

On the difficulty you are experiencing on the T-18-H GMC truck with an Eaton two-speed rear end, I am inclined to believe that your trouble is the result of incorrect adjustment of the shifting levers and rods. In some instances, it is virtually impossible to make an adjustment which will overcome your trouble, because of the great difference in the height of the body when loaded and unloaded. This is particularly aggravated when the springs are weak, and when the truck is severely overloaded. In many instances, helper springs will assist in overcoming this difficulty so that there is not such a great variation between the height of the body when loaded and unloaded.

Studebaker Overdrive

I have a 1937 Studebaker (Dictator) with overdrive. Would like to know how to adjust unit so it will go into overdrive at a lower speed. It now goes in at from 40 to 45 m.p.h. It disengages and goes into free-wheeling at 31 m.p.h. Can this be changed also to say about 25 m.p.h.?—Everett Wescott, Hercules, Cal.

THE following method is used to adjust the overdrive cut-in and cut-out speed on the 1937 Studebaker Dictator.

Remove the transmission cover from the floor and jack up the rear wheels. Remove plug from top of overdrive housing.

With shift lever in neutral free wheeling, turn propeller shaft backwards until the opening in the clutch shell and the opening in the overdrive case line up with each other, and with the adjustment screw.

Turn the screw in (clock wise) or out (counter clock wise) to increase or decrease the cut-in as required. Continue rotating this shaft to make the second screw accessible, and re-

peat the preceding operation, turning the screw exactly the same amount and in the same direction as in the case of the first screw. One screw has a single slot and the other a crossed slot as a matter of identification to prevent repeating the adjustment accidentally on the same screw. It is important that the screws are not turned out to a point where they will interfere with the clutch shell.

Engine Loses Oil

I have a 1937 six-cylinder Pontiac that I overhauled, installing new rings, rod and main bearings and a new main bearing oil seal. The engine runs fine and uses no oil under 50 m.p.h., but between 50 and 70 m.p.h. the oil just pours out of the rear end of the motor. It does not come out of the seal at the end of the camshaft, that I can see.

Had a little trouble with the first three cylinders missing, but after I replaced the fuel pump this trouble disappeared, but I think these three cylinders are a little weaker than the others.

I still think I have fuel pump trouble. I think at high speed it forms a vacuum in the motor and forces the oil out. If you can help me I would appreciate it.—An Illinois Subscriber.

THE point I would check first in this car is that of the crankcase ventilating system. I would be sure that the ventilator is clean and, to be on the safe side, I would clean the steel wool filter by washing it in gasoline. Perhaps a better method would be to remove the filtering element from the ventilator unit and leave it out entirely. Then I would be sure that the air cleaner itself was properly cleaned.

If this car is equipped with a combination fuel and vacuum pump, it is quite possible that the vacuum pump diaphragm is leaking, which would force oil vapor up into the intake manifold and result in burning the oil and, of course, smoking at the muffler tail pipe. I suggest you dis-

(Continued on page 52).



"Boy-oh-boy!" A quarter, this must be my lucky day!"

AUTO-LITE

SEALED-BEAM UNITS, LENSES FOG AND DRIVING LIGHTS

for

CARS



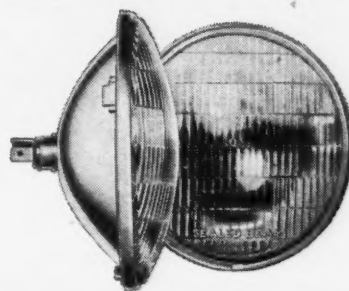
TRUCKS



BUSSES

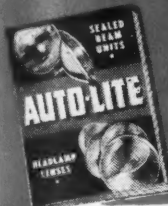


TRACTORS



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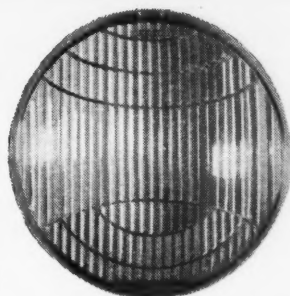


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As soon as materials are released, Auto-Lite Fog and Driving Lights will again be manufactured. These lights, noted for the contribution they make to highway safety, come complete with wiring, switches and brackets for easy mounting.



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don't say



***"I.T." MAKES THE**
***"INDIVIDUAL TUNING" TO EACH**



ACCURATE FIT . . . Walker "Individually Tunes" each Silencer to the exact dimensions of each make and model of car. Shell lengths and diameters, size and shape of headers, brackets, flanges, etc., all meet installation specifications exactly. "I.T." means Walker Silencer installations are fast, easy and profitable.



CORROSION BALANCE . . . Different materials and gauges of materials must be used to meet wear and corrosion problems of different motors. Walker Silencers are "Individually Tuned" scientifically—inside and out—to assure corrosion balance for long, efficient service.



"Muffler"... say

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THE WORLD'S LARGEST SELLING REPLACEMENT
MUFFLERS ARE "INDIVIDUALLY TUNED" WALKER SILENCERS

● Say Walker Silencer and you offer your customers the finest exhaust system service that modern industry has yet produced.

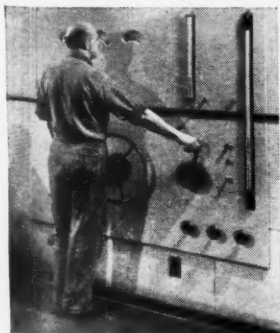
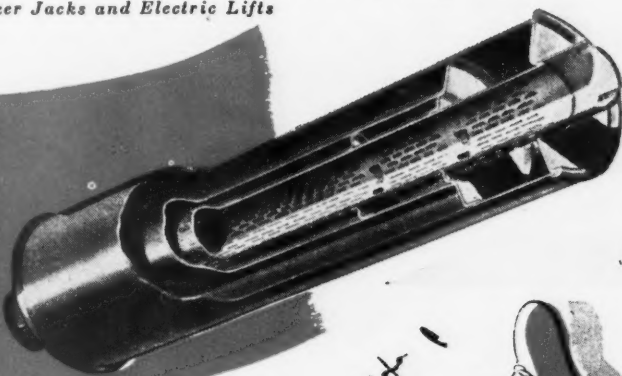
Say Walker Silencer and you give your customers a "custom-made" exhaust system service that meets the individual performance requirements of their own particular makes and models of car.

Say Walker Silencer and you assure each customer a complete exhaust system service "individually" designed to restore safety, peak engine performance and quietness to his car.

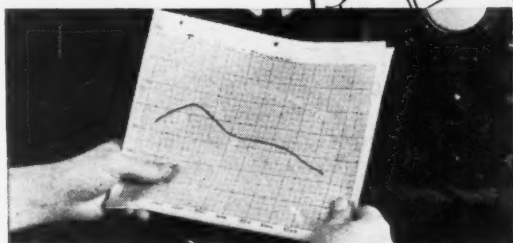
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PERFORMANCE BALANCE... Walker engineers so accurately "Individually Tune" Walker Silencers that back-pressure never exceeds standards set by exhaustive road and laboratory tests to assure peak engine performance and gasoline economy.



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Clearing House

(Continued from page 44)

connect the line leading from the vacuum pump to the manifold and hold a piece of white paper over the end of this line while the engine is running. If the diaphragm is leaking, an oil spray will show up on the paper. If you find this to be the case, the vacuum pump diaphragm should be replaced.

I assume that, when you installed main bearings, you checked the shaft and are satisfied that it is not out of round. If it is, it will be impossible to

make this engine hold oil, particularly at high speed. If the shaft is more than .001 in. out of round, it should be turned true and an undersize bearing fitted.

I am inclined to believe, however, that your trouble is pressure build-up in the crankcase, due to the fact that the ventilator unit is partially plugged up.

Radiator Blows Water

I have a 1935 Pontiac 8, 4-door sedan that heats—drive it 8 or 10 miles and it blows the water out of the radiator. Here is what I have done.

Ground valves, put in new rings, had radiator off and cleaned it with acid three times, and cleaned the block, put in new water tube in block, put on new water pump and six blade fan, tried different thermostats, new hoses, new timing chain and checked bearings. This is a cross flow radiator.—Erey Johnson, Johnson's Auto Service, Marshall, Minn.

AFTER carefully studying the difficulty you are experiencing with the 1935 Pontiac, I think there is a strong possibility that you have either a blown cylinder head gasket or a warped cylinder head. I note that you have ground valves which would tend to eliminate the possibility of a defective gasket but, of course, that would not catch a warped head unless you checked for it specifically.

If that does not prove to be your trouble I am inclined to believe that your radiator and cylinder block has not been thoroughly cleaned. You might also check for a cracked cylinder head or cracks around the valves which would permit the exhaust gases to enter the cooling system.

Bad Oil Leak

I have a 1936 Ford V-8 with a bad oil leak. I put two sets of gaskets in, but it leaks oil out the rear of crankcase through the cotter pin, so the trouble must be some other place than the gaskets. Most of my work is Ford work, but I never had anything like this on a V-8. In 25 miles, it leaks about 2 qt. and, when car comes back and the motor is stopped, there is a ½ pt. on the floor in about 5 min.

This car was bought just about a month ago. The dealer told the owner
(Continued on page 54)

FOR IMMEDIATE DELIVERY



CENTRAL
Certified Accuracy
MICROMETERS

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Micrometers of Certified Accuracy
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"Hand me one of them thingamajigs, Myrt, that belongs on the you-know-what at the end of the what-you-may-call it!"

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Guide LAMP

DIVISION OF GENERAL MOTORS
ANDERSON, INDIANA

BUY VICTORY BONDS

LET SAFETY SHARE THE RIDE—REPLACE WITH GUIDE

Clearing House

(Continued from page 52)

it was a rebuilt motor. It does not look to me like a regular Ford rebuilt motor. Please let me know what can be done about this.—A Pennsylvania Subscriber.

UDGING from your description, I am inclined to believe that this leak is caused either by a poorly fitted rear main bearing, or a leaking oil pump gear-cover plate at the rear of the camshaft.

Some of the 1936 models used a bearing with the babbitt poured into

the cap, while the later models used the slip-in type of bearing. If this particular car has the slip-in type of bearing, it will be an easy matter for you to replace the bearing shells with new ones, and this I believe, will stop the leak unless the crankshaft is scored or worn out-of-round. If, on the other hand, this car does not have the slip-in type of bearing, it will mean that the engine will have to come out, and new crankshaft bearings can be fitted and reamed to size.

If the leak is at the rear of the camshaft it will mean installing a new gasket between the block and the oil pump gear cover plate.

Willys Won't Idle

This is the first time I had to write to you for advice. I am a yearly subscriber and any help will be appreciated.

We have a 1941 Willys, American, in our shop that will not idle. We have installed new piston rings, wrist pins, ground the valves and valve seats. Tappets are set at .014 cold (very accurate). We have tried a new carburetor, checked ignition timing, checked distributor on our distributor machine, also the entire ignition system. We installed a new timing chain, because the old chain was very loose and noisy. Chain was installed according to specifications on timing, etc. Everything on this job has been done very conscientiously, and I am pretty sure that ignition trouble can be eliminated. The engine idles as if it was loading up, otherwise, it runs very good.

This engine has always been bad on idle, and was bad when it came into our shop for the above job. I realize that these four cylinder jobs are not too smooth on idle but this is really bad. Could it be the intake manifold? —A Morristown, N. J., Subscriber.

I WOULD suggest that you make a compression test on the cylinders to determine whether there is a slight warpage of the cylinderhead. Also take the vacuum reading on the manifold to determine if there is any possibility of leaks or a burned through spot on the manifold.

I would also check the fuel pump pressure as it is entirely possible that if this is too high it may cause the condition which you have. The pressure should be approximately 2½ lb.

1915

SNUBBERS then...

TRADE MARK
REG. U. S. PAT. OFF.

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SHOCK ABSORBERS... NOW

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Today the hydraulic principle dominates spring control of motor cars, and the name Gabriel identifies the perfection of this principle. Cars of every size—trucks, buses and railway cars—run smoother, safer and last longer because of Gabriel hydraulic shock absorber equipment.

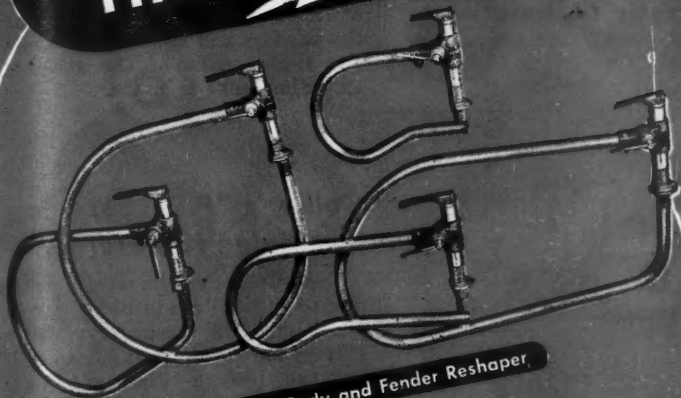
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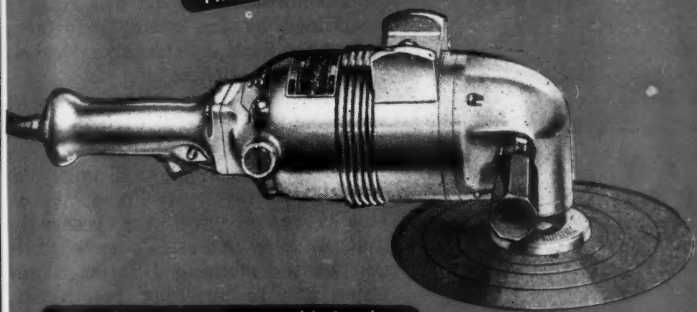


"Welcome back, Bill! And I want you to meet Suzy Jones, the little girl who's been doing such a swell job of taking your place while you were gone!"

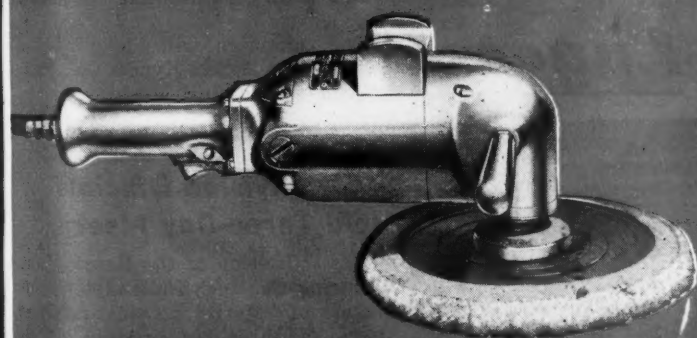
PROGRESSIVE BODY SHOPS PREFER THE *Milwaukee* COMBINATION...



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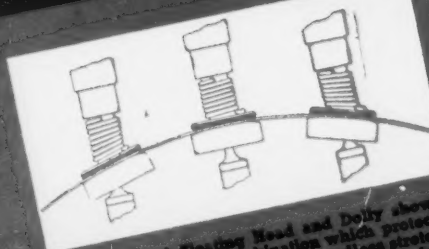


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The essential factors considered in engineering the Milwaukee Polisher were—correctness-of-speed, power, and weight. The results are verified in the high lustre finishes obtained with this Polisher.

If you need tools which can more profitably adapt themselves to your Body-Shop, we suggest you contact your Jobber for a demonstration of the "Milwaukee" line or send in the attached coupon.

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108 North Water St., Milwaukee 2, Wis.

Please send me your latest catalog:

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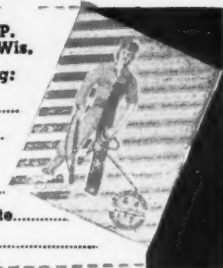
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Company.....

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City..... State.....

Your Jobber's Name.....



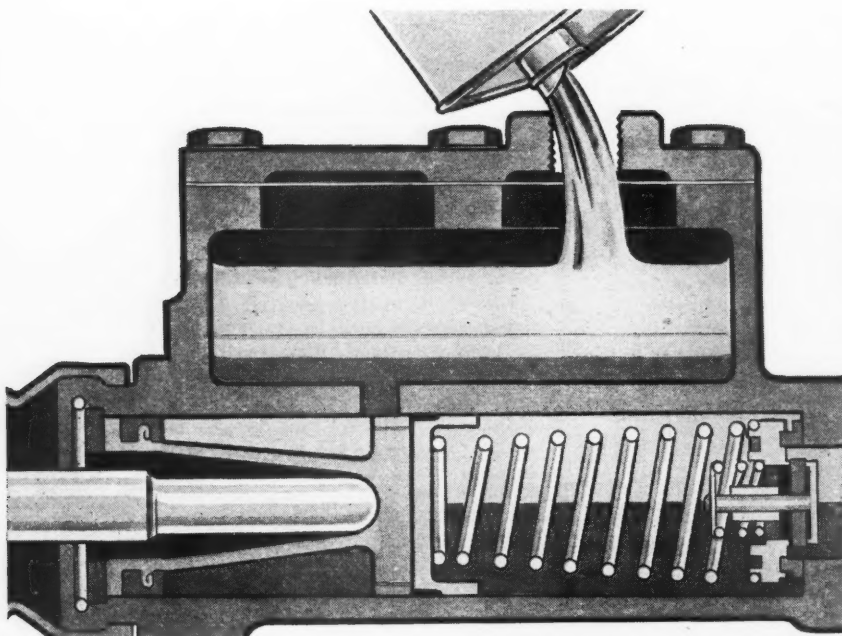
Packard Test Ground Back to Peacetime Task

Badly battered from more than three-and-a-half years of tough war service, the 500-acre proving ground near Utica, Mich., where all types of tanks were tested for action on the world's battlefronts is being turned back to the Packard Motor Car Co. for resumption of peacetime automotive test and research.

There were only a few onlookers, when the last of scores of 30-40 ton tanks, which ran up more than 500,000 test miles during the war roared off the 2½-mile cement oval. Simul-

taneously, Ray Heinrich, veteran test driver, steered a Packard onto the track—the first since the grounds were turned over to Chrysler Corp. and the Army as a tank test center in January, 1942.

It will be several months before the Packard test speedway can be reconditioned for resumption of rigid speed tests used before the war. Other test and research facilities at the proving ground, including some 16 miles of winding, bumpy dirt roads which required more than 33,000 yards of gravel to maintain during their pounding by the tanks, can be reconditioned quickly for almost immediate use.



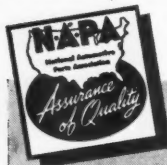
Are You Adding Layers of Brake Fluid?

Unless the brake fluid you add mixes thoroughly with the old you aren't improving the condition of the system—but actually aggravating a potentially dangerous state of affairs.

By adding Puritan Brake Fluid you make sure of a homogeneous mixture—because Puritan mixes with *all* brake fluids—original or replacement types. Here's a brake fluid that was developed to do a superior job by itself and to mix with every other type.

You can service every hydraulic brake system with Puritan Brake Fluid. Standardize on the one type that works well with all others. Regular grade for ordinary service. Super grade for heavy duty service.

Ask your distributor to demonstrate the superiority of Puritan Brake Fluid.



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ROCHESTER, NEW YORK

The All—"Miscible" Brake Fluid—replaces, replenishes, and mixes with all types.



"DP" Brake

(Continued from page 23)

tween the brake shoes and drum is made by turning the eccentric anchor pins at the bottom of shoes until the shoes are tight against the drum. Then back off the eccentrics to give a slight running clearance. The floating shoes and radial application eliminate heel and toe clearance adjustments. The two eccentric anchor pins extend through the backing plate for easy adjustment. The anchor pin abutment blocks are free to rotate on the anchors and align themselves with the angled ends of the shoes when an adjustment is made.

Collier's "P. S." Service Campaign to Return

The Collier's Preventive Service Campaign will again be carried on.

The "P. S." program which was started by Collier's Magazine in 1939 and ran through 1942 had to be temporarily suspended in 1943 due to war-time conditions. "P. S." was, however, acclaimed by the entire industry as one of the most constructive programs ever conducted.

In announcing the resumption of the "P. S." Campaign, T. L. Brantly, advertising Director of The Crowell-Collier Publishing Company, said: "Collier's is reinstating its Preventive Service Program with the recognition that to keep America's cars, trucks and busses running is tremendously important to speeding reconversion, giving employment to returning veterans, and maintaining American morale."

The campaign will again be handled by The Aitkin-Kynett Co., Philadelphia advertising agency.

Merit Division Officials Hold Three-Day Meet

Merit Division of the Basco Manufacturing Co., Inc., Indianapolis, Ind., makers of "Merit" Exhaust Systems, staged a three-day meeting of the entire sales organization from September 6 to 8. Group meetings as well as individual conferences with key factory officials were held for a free interchange of ideas among the sales organization.

The meetings held detailed discussions of "Merit" products, post-war policies and future sales and merchandising plans. The sessions included an inspection of the complete engineering, research and manufacturing facilities at the Indianapolis plant.

"Merit" sales representatives were joined at dinner by all of the factory executives and department heads on the second day of the conference.

Get a "kick" out of a job well done?



Aside from the solid foundation of regular customers you build—aside from the continuing profits that go hand-in-hand with top-notch service—there's *real satisfaction* in doing a job that you know is right from start to finish. And since good workmanship begins with good materials, these United Motors Lines of original-equipment parts have a place in your service operations. Look 'em over—they represent the class of the field in quality, in engineering excellence, in performance.

Returning veterans: Write today for information regarding a profitable automotive service business of your own. A United Motors Service franchise will pave the way.

BUY VICTORY BONDS AND KEEP THEM

UNITED MOTORS SERVICE

DIVISION OF GENERAL MOTORS CORPORATION
GENERAL MOTORS BUILDING, DETROIT 2, MICHIGAN

**You Can Really
"Do a Job"
With These
UNITED MOTORS
LINES**

DELCO Batteries
INLITE Brake Lining
DELCO Radio Parts
HYATT Roller Bearings
DELCO Auto Radios
HARRISON Heaters
DELCO-REMY Starting,
Lighting and Ignition
NEW DEPARTURE
Ball Bearings
DELCO Shock Absorbers
HARRISON Thermostats
GUIDE Lamps
AC Fuel Pumps, Gauges
and Speedometers
KLAXON Horns
DELCO Home Radios
HARRISON Radiators
DELCO Hydraulic Brakes

*Available everywhere through
United Motors distributors*



*There's more Tomorrow
in the*



Nash

*Tune in Nash-Kelvinator's hit musical program,
Sundays 4:30 P. M., E.W.T. • 3:30 P. M., C.W.T.
2:30 P. M., M.W.T. • 1:30 P. M., P.W.T.
American Broadcasting Company.*

Nash Deal Today!

Today, in the automotive industry, there is a great deal of discussion about Nash...

Because, from the dealer's point of view Nash has tomorrow's car and franchise *today!*

... Leading dealers know, for instance, that the very first Nash cars off the line will have many of the basic engineering improvements that the public expects in future automobiles.

Proof of this is an analysis of Nash features against the results of leading national surveys and public opinion polls that show specifically what the public wants in cars to come.

... Farsighted dealers know, too, why so many automotive men call Nash one of the greatest sales opportunities in the industry today . . . for Nash

plans beyond the boom years to give the dealer steady earnings in normal as well as boom periods.

They know the Nash Franchise means a new system of distribution . . . a limited number of carefully selected men destined for a *permanent* future...

... And business-minded dealers are talking about the farsighted engineering programs responsible for the great Nash "600" and Nash Ambassador . . . a program that will put Nash ahead today, and assures a prominent position for Nash in the years to come.

Yes . . . these are the reasons why, from the dealer's point of view, Nash is truly tomorrow's kind of a deal today.

NASH MOTORS

Division of Nash-Kelvinator Corporation, Detroit 32, Mich.

***will be the News
when the News is New Cars***

Servicing Gear Shift

(Continued from page 25)

extension. In the neutral position the spring has no rotating effect on the lever. When the shift lever is moved in either direction from neutral, the line of spring tension swings over center and helps to rotate the shift lever.

If there is too much lost motion or rattle at the gearshift lever pivot, remove the shift lever and add shims

necessary to take out excessive clearance. At least one anti-rattle should be used at this point and any further clearance should be taken up with shims.

When a rattle develops at the lower end of the control shaft, make sure that the flat anti-rattle spring is in place in the keyway between the shaft and the lower support.

If the gearshift lever does not return to the high speed side, make sure that the pull back spring is hooked into the hole in the steering column and into the control shaft

return spring clip. This condition may also be caused by misalignment of the upper or lower supports. This may be corrected by loosening the support screws and placing shims under the supports.

If the shift control rod rattles or clicks at the transmission end, check the plain washers and wave washer for correct assembly at the control rod joint and selector shaft lever.

Ford Motor Co. Executives Named

Executives who will direct the peacetime operations of the Ford Motor Co. were designated recently by Henry Ford II, president.

J. S. Bugas will head industrial relations, a division which previously had not been identified by that name, Mr. Ford said.

"Mr. H. H. Bennett will serve in a consulting and advisory capacity, and continue as a director."

M. L. Bricker has been placed in charge of both productive and non-productive manufacturing. R. R. Rausch has been assigned to work with Mr. Bricker on major construction projects.

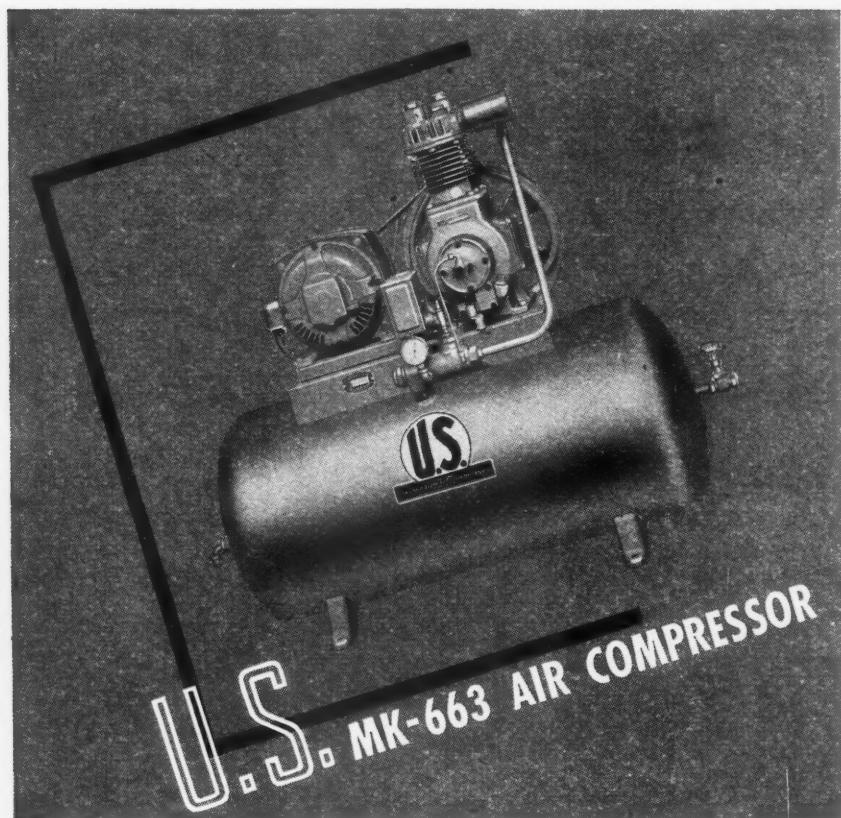
Other men named in Mr. Ford's announcement and the divisions over which they will have jurisdiction, are:

J. R. Davis, sales and advertising; C. H. Carroll, purchasing; R. H. McCarroll, engineering; R. I. Roberge, foreign operations; and B. J. Craig and H. L. Moekle, accounting, auditing and finance.

Mr. Ford said that members of the board, in addition to himself, will continue to be Henry Ford, Benson Ford, Mr. Craig, Mr. Bennett, Mr. Rausch, Mr. Bricker and Frank Campsall.

Oldsmobile Steps Up Production Facilities

Oldsmobile Div. of General Motors is stepping up production facilities in all departments in expectation of an annual output of 450,000 cars a year at full production. It presently is expanding its pressed metal facilities by more than 65,000 square feet, and is erecting a new two-floor materials receiving and shipping building 60 by 548 ft. The division also will have for use in automotive production for the first time the new forge plant acquired in 1940 and expanded in 1944 to approximately 600,000 sq. ft. It was used for producing shell casings and other forging during the war, and now will supply Oldsmobile with all its automotive forgings as well as allied divisions of General Motors.



Before buying check into any air compressor because an inferior air compressor can cripple your station operations, costing you both money and customers. The remarkable U. S. Model MK-663 air compressor sets a standard for the world to match in design, engineering, precision workmanship and quality materials. U. S. Model MK-663 is a husky two stage, 1½ H. P. air compressor with a larger bore, larger crankshaft, and wrist pins; runs slower and is extremely quiet.

Large area cylinder fins produce cool operation, carbon elimination, and greater efficiency.

Integral part of pump is a totally enclosed, centrifugal, dirt proof unloader which positively prohibits any danger of burning motors or belts.

When you buy a U. S. Air Compressor you get the best, its superiority proven by its performance under all kinds of conditions.

Send in for free catalogue



AIR COMPRESSOR CO.

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AIR COMPRESSORS HYDRAULIC LIFTS
LUBRICATING EQUIPMENT

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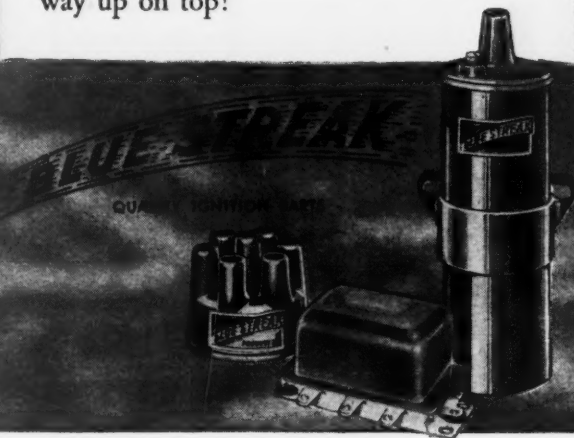


Up on Top!

It's no joy ride — swinging 500 feet above solid ground. But these men who push our cities up into the sky, almost seem to enjoy the hazards. Perhaps it's the satisfaction they feel in doing a job few others can do . . . and doing it well.

You feel that pride when you turn out a good repair job, when you make a stunned motor sing like new. And on our side, there's the satisfaction of supplying the finest parts for your replacements. Despite the pinch on manpower and supplies, Blue Streak's still testing, still insistent on top grade materials, still the best S L I line on the market.

You can count on the long life and peak performance of Blue Streak Ignition Parts to do justice to your skill . . . put you way up on top!



STANDARD MOTOR PRODUCTS, INC.

37-18 Northern Boulevard, Long Island City 1, New York

Timing Valves

(Continued from page 27)

his head under the open hood.

"See those marks on the sprockets," remarked Pop, pointing to a punch mark on the crankshaft sprocket and another on the camshaft sprocket. "One is supposed to be right under the other when the mark on the camshaft sprocket is at bottom center. On this job, the camshaft marks one tooth behind the crankshaft mark."

Tommy's eyes lighted up as an idea came to him. "But that oughtn't to

make any difference," he said. "The distributor shaft and the valves are both driven by the camshaft. If the valves open late, the spark has to be late, too."

Withdrawing his head from under the hood, Pop rested a hand on the fender, and regarded Tommy with an indulgent smile. "So that's it?" he asked.

"Isn't it?"

"No," said Pop, standing erect. "Larry and you just adjusted the ignition timin' without takin' the trouble to check the valve timin', didn't you?"

Tommy nodded.

"Well, you couldn't have done it if the ignition and valve timin' depended on one another. They're related, all right, but not that way.

"You see," he went on, resting a foot on the running board, "the purpose of timin' the ignition and the valves ain't the same. You want the ignition timin' to change with the speed of the engine. If you're gonna get the most power out of every explodin' charge, you gotta fire the mixture before the piston gets to top dead center."

"I'd think that would drive the piston backwards," said Tommy.

"You might—but I wouldn't call that thinkin'. You see, the mixture don't burn all at once. It burns kinda slow compared to the speed of the engine, and it don't get up enough pressure at first to drive the piston down against the force of the flywheel. But, if you don't get it started to burn before top center, it don't all burn till too late on the power stroke. The faster the engine is turnin' over, the sooner you got to fire the charge—or advance the spark, as they say.

"But," he continued, leaning on his knee, "valves is a horsepower of a different color. You can't monkey with the timin'. It's gotta be right all the time or your engine ain't got no pep.

"On most cars, the inlet valves start openin' before top center. The reason for that is, the valves open and close slow, and most engineers want the inlet valve all the way open at top center. On this job, for instance, the inlet valve starts to open at 12 deg. before top center. And, on most cars, the inlet valves don't start closin' till after bottom center. That's because you want to suck in as much mixture as you can. The engineers who designed this job thought that 42 deg. after bottom center was as far as they could go, and still have enough piston travel left to compress the mixture the way they wanted to.

"Now the case of the exhaust valves is a little different. They start openin'

(Continued on page 65)



Exactly where most lubrication failures take place, and many motor troubles start, MARVEL Mystery Oil does its best work. It reinforces lubrication and guards those vital upper cylinder engine areas where ordinary lubricants break down. Additionally, it retards the formation of power-killing engine gums and varnish, and encourages rings and valves to function smoothly. Oil lines and pump screens benefit by the remarkable gum solvent ability of this super-additive oil. Added to today's gas, it prevents fuel gumming and improves carbon condition.

There's an active demand and assured satisfaction for you in MARVEL Mystery Oil. Ask us to show you how it helps to keep motors young and profits growing. THE EMEROL MANUFACTURING CO., INC., 242 West 69th Street, New York 23, N. Y.



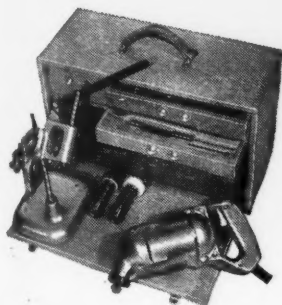
MARVEL MYSTERY OIL



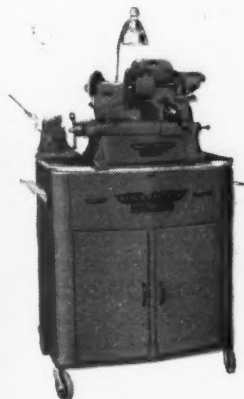
"Next time you catch me kissing the office girl, Jones, you needn't ask for a raise. I married her last night!"

This Better Way to Grind Valve Seats

*Brings You
Bigger Profits*



Standard Universal "Vibro-Centric"
Kit (illustrated) for all popular cars
and light trucks, \$105.00. Heavy-
Duty Kit, for most engines from light
cars to larger trucks and tractors,
\$124.50.



Black & Decker Electric Valve Shop
rolls right up to the job with Super-
Service Valve Refacer and full
"Vibro-Centric" Equipment for com-
plete valve reconditioning. Made in
12 combinations.

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Black & Decker "VIBRO-CENTRIC"* Method is Fastest, Most Accurate, Most Efficient

Black & Decker Valve Seat Grinders—
with the patented "Vibro-Centric" action
—help you make more money in two
ways. They do factory-accurate work
that brings more valve jobs to your shop.
And they do the work in less time so
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"Vibro-Centric" Is Most Accurate be-
cause: (1) Concentric plunge grinding
is most accurate; (2) Self-Centering
Pilots find true center of valve guides;
(3) Accurate Dressing Stand puts true
angle on seating stone.

"Vibro-Centric" Is Fastest because: (1)

Full-Powered Driver grinds at top
speed—only a few seconds per seat;
(2) Self-Centering Pilots cover "plus"
and "minus" valve guides; (3) Built-in
"vibrating action" reduces stone load-
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Get in touch with your Black & Decker
Distributor—let him give you full infor-
mation—and place your order for a
"Vibro-Centric" Kit now. Or write today
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Principles of Valve Reconditioning."
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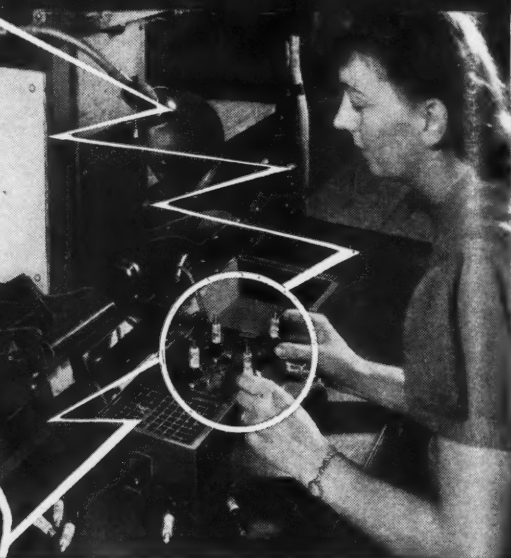
LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC TOOLS

SUPER-TESTED WITH 60,000 volts!

Note the massive oversize construction of a BLUE CROWN "HUSKY" . . . No skimping of material to reduce cost. Parts are HUSKIER, to resist engine vibration, fight wear and tear, take rough handling, last longer.



Before leaving the factory every BLUE CROWN "HUSKY" Spark Plug must stand up under the terrific impact of 60,000 volts, without injury to electrodes or porcelain insulator.



Gas Leakage Test. Air is applied at 225 lbs. pressure and a bomb load of plugs is submerged in hot oil. Leakage, if any, is determined to 6/1000 of a cubic inch by graduated burette.

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Please send your service Bulletin on "How to overcome spark plug troubles".

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SUPER-TESTED
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Controlled Heat Zone SPARK PLUGS

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In the BLUE CROWN laboratory every condition of operation can be accurately reproduced. BLUE CROWN Dynamometer controlled SUPER-TESTS are completely conclusive and assure you of efficient, enduring spark plug performance.

★ Sold only through Jobbers



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EXPORT SALES
Borg-Warner International Corp.
CHICAGO 4, ILLINOIS U.S.A.
Cable Address "BORINTCO"

Timing Valves

(Continued from page 62)

before the piston has finished the power stroke—52 deg. before on this job. You lose a little power that way, but the engineers thought it was more than made up because it started to get rid of the burned gases faster. And the exhaust valves don't start closin' on this job till 10 deg. after top center."

"Doesn't that interfere with the fresh mixture that's being drawn into the cylinders?" asked Tommy. "You said the inlet valve opens before top center."

"Not to any extent," said Pop. "You see, if the exhaust valves closed at top center, the burned gases between the piston and the cylinder head would just stay there. With the valves timed to stay open 10 deg. longer, these gases have a chance to escape. The pressure in the manifold is lower than it is in the cylinder, so the burned gases is sucked out."

Tommy hitched up his coveralls. "How will we go about timing the valves on this job—just line up the marks on the sprockets?"

"The marks have to be lined up," said Pop, "but we'll have to do more than that. We'll have to replace both the chain and the sprockets. What happened was, the chain and sprockets wore so much the chain jumped a tooth. We've got to replaced the chain and both sprockets as a unit."

"Okay," said Tommy, "I'll call the jobber."

"And while you're waitin' for the replacements," said Pop, "you better adjust the valve lifters. There ain't no use tryin' to time valves without doin' that. If you got too much clearance, the valves is late openin' and early closin'. If you don't get enough, the valves is early openin' and late closin'."

"Which is worse?"

"Both," Pop admitted. "If the inlet valve opens too soon, some of the mixture is gonna be forced out through the exhaust valve, and it don't leave enough mixture in the cylinder to give you peak power. If it closes too late, the piston don't get a chance to compress it enough. And, if it opens too late and closes too early, the piston just don't suck in enough mixture."

"Early openin' of the exhaust valve will let the gases escape on the power stroke before they've expanded all they could. That means losin' power. Late openin' keeps you from gettin' rid of all the burned gases."

"But," said Tommy, "if one valve is early or late, all the others have to be, too. They're all operated by the camshaft."

"That would be true if the engine

don't have valve lifters. But, if it has, improper clearance could throw just one valve out of time."

Choosing a clean spot on his hand, Tommy brushed back a strand of hair with it. "I feel awful dumb about not spotting the trouble on this job," he said. "I've been around long enough to know better."

"I'm not blamin' you," said Pop, taking his foot off the running board and looking at his watch. "You done what you was told. But a good mechanic ought to know what he's doin' and why. Some guys that think they're hot-shot mechanics never give valve timin' a thought."

"Just the same, I'm sorry I brought you all the way out in the shop."

Pop laughed. "I come fast, too, didn't I? When that engine started firin' back through the carburetor, I thought the Japs had landed."

Tommy's eyes grew round with surprise. "Didn't you hear about V-J day?"

"Sure," said Pop. "But this mornin' I was lookin' over the books, tryin' to figure about how much income tax I'll owe. Somebody ought to tell the Treasury Department about Mac-Arthur bein' in Tokyo. It looks to me like they're still tryin' to buy him a ticket."

"These 3 rods sure help me do a swell welding job..."



<p>AIRCO NO. 27 LOW FUMING BRONZE ROD ...an excellent type of low-fuming bronze rod, with minimum release of obnoxious and detrimental fumes. High tensile strength; good finning qualities on steel (on cast iron paint surface with Airco Hi-Bond Flux).</p>	<p>AIRCO NO. 7 MILD STEEL ROD ...for highest quality general welding of steel plate, sheet, structural steel and piping.</p>	<p>AIRCO NO. 1 ALLOY STEEL ROD ...specifically designed for oxyacetylene welding of steels comparable to Grade A and B pipe analysis... meets all A. S. A. Pressure Piping Code Qualifications.</p>
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For more than a quarter century, welding operators and burners have found all Airco rods, fluxes and other supplies to be "tops in the field" for all oxyacetylene welding and cutting jobs.

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can make delivery from stock. Call today.

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Ever Smarter Looking, ever giving greater value—

The General Tire, always pioneering, has kept far ahead in mileage, safety, comfort and reliability. One thing that has never changed is General's original principle... building the top-quality tire at all times. The Generals you buy today proudly uphold this 30-year-old tradition.



—goes a long way to make friends


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GENERAL
TIRE**

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AKRON, OHIO



Reputation...

AN ASSET BEYOND PRICE

In every field there is a manufacturer who elects to build his business on a single principle... making the finest product of its kind.

In the tire field, that product is GENERAL. The public knows it. The trade knows it.

Through 30 years, General has never deviated from its course. The reward has been a reputation for quality that is an asset beyond price.

General's good name has been the foundation upon which thousands of car dealers have built a companion business to new car sales that *alone* would support their overhead . . . that *doubled* their previous tire department profits.

The advertisement on the opposite page, now current in national magazines, is the first of a colorful new series which will re-affirm General's dedication to quality... re-emphasizing to the public General's leadership.

THE GENERAL TIRE & RUBBER COMPANY • • • AKRON, OHIO

Buick 1946 Models

(Continued from page 28)

Spauldite to carbon block.

The fuel system remains unchanged. The air cleaner and silencer are the same. The exhaust system is unchanged except for the use of heavier gage material in the muffler.

The carburetor is of dual type instead of the double compound units formerly employed, the intake manifold being redesigned to accommodate the change. An automatic choke is built integrally with the carburetor, its operation being governed by intake vacuum and a thermostatically

controlled spring.

The spark plug setup has been improved by the adoption of the AC 14 mm Model 48 with an aluminum oxide insulator. Because of inherent design, it provides a hotter plug at low speed operation thus preventing fouling. At high speeds its characteristics are such that pre-ignition is eliminated.

Valve rocker arms are Lubrited for long life, permitting the elimination of copper plating of the rocker arm shaft. Rocker arm brackets return to die cast aluminum as in 1941.

The clutch has been refined by the addition of a spring to prevent wear between the clutch release bearing

and clutch spring while the clutch spring material has been changed to provide for greater durability.

The transmission and its controls remain as before. The Saginaw ball bearing worm and nut steering gear remains unchanged save for the use of 9/32 in. balls instead of ¼ in.

The frame is the same save for a change in holes for the lower control arm shaft. The front suspension continues the knee action design. However, the lower control arm inner shaft and bearing are new, using threaded sleeve type bearings with grease seals. This setup also is available for servicing older models.

In the rear suspension system and axle the following detail changes have been made: the differential case is 1 in. larger in diameter and with a heavier flange; the ring gear and pinion set is a 49/11 combination with 50 deg. spiral angle. In addition, the ring gear has a thicker back. The axle shaft is Tocco-hardened to strengthen it at the wheel end and to provide a hard-surface inner end for preventing end play.

The brake setup remains the same as before. Wheels, tires and hub caps remain unchanged. However, the car owner can get 18 x 6.50 wheels and tires and high springs as optional equipment for higher road clearance, on both models.

Electrical equipment, battery, wiring, instrument panels, etc., remain unchanged.

The radiator grille is new, and is made of stainless steel stampings, chromium plated. New front and rear reinforcements are used in the hood top. The depression for the ornament is revised, but will not affect interchangeability with the 1942 series. The radiator splash pans have been redesigned to permit the elimination of the front fender lower tie panel.

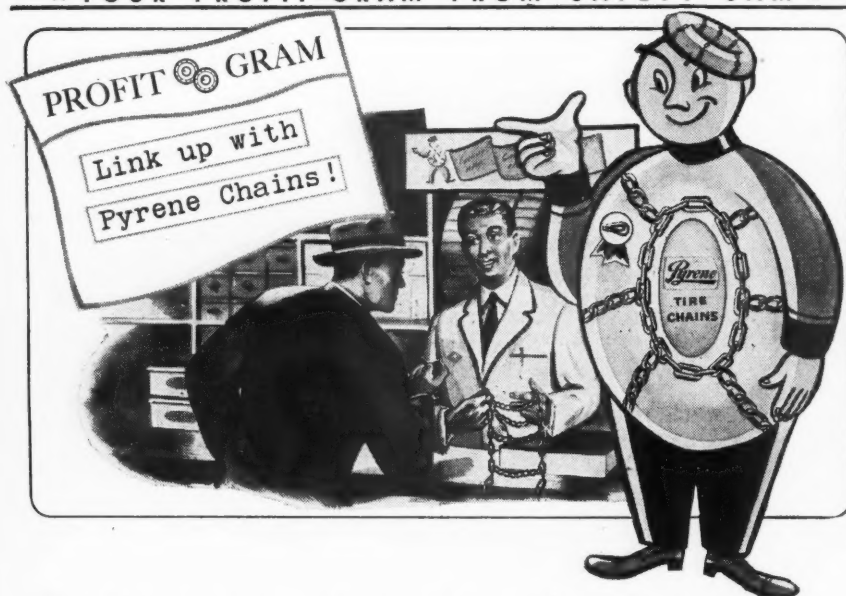
Many important changes and improvements in processing are incorporated in the bodies for 1946. For example, to prevent rusting of sheet metal the outer rocker panels have a series of louvres to provide ventilation. In addition, the rocker section is painted on the inside to prevent corrosion.

The door panels are also painted on the inside to prevent corrosion. The door bottom weatherstrips are held down with closely spaced clip retainers to assure retention.

In keeping with the general principle of rust prevention, sill plates are changed from steel to aluminum; and other moldings are changed from steel to stainless steel or brass. Chrome plating specifications for steel and zinc die castings have been changed to GM Class A which has a thickness of 0.001 in. as compared with the former practice of only 0.00075 in. At the same time specifications for zinc die castings have been

(Continued on page 70)

★ YOUR PROFIT-GRAM FROM SAFETY SAM ★



Remind customers about slick roads and smooth tires

Caution them now about stalling, danger and accidents ahead unless they're prepared. Warn them to get the jump on wintry weather by having their tire chains ready for emergencies. Now is the time for them to take stock of their old chains and have them put in like-new condition with Pyrene cross chains and repair parts. If they're beyond fixing, replace with new chains, and they'll want Pyrene chains for best results.

Sell Pyrene DOUBLEDUTY BAR-REINFORCED CHAINS—more than double wear—slightly higher cost.

Your customers will appreciate the new Safety Sam Chain Guide

It tells them how to install and conserve tire chains; it builds good will and additional sales for you. Be sure you always have them on display for your customers.

Ask for the Safety Sam Window Streamer; it brings customers into your store.

Pyrene Manufacturing Company



We've All Got to Work Just as Hard- **AND SELL EVEN HARDER!**

- America's cars and trucks and buses have grown no younger with Victory ... In fact, with more gas, more tires, and the lifting of speed restrictions, they
- will grow old even faster!

All of you automotive repairmen already have accomplished the seemingly impossible in keeping America's vitally essential transportation rolling far beyond its normally anticipated span of life.

BUT THE TOUGHEST PART OF THE JOB STILL LIES AHEAD!

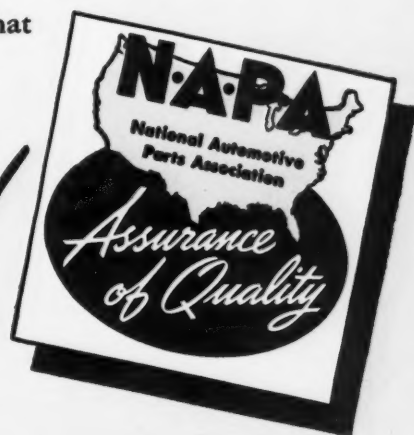
The natural tendency of people will be to postpone needed repairs, thinking that they will get a new car before long. Yet it will be years before we can get the new cars we want—even if the industry's production is as large as predicted. Until then we will continue to need the ones we have.

Because you, America's automotive repairmen, are the single greatest influence in keeping these cars in service, this job continues to be your first responsibility, in peace as in war. You'll have to work just as hard—and you'll have to sell harder than you have for years.

In every phase of this fundamentally important job, NAPA, the largest independent organization in the parts industry, pledges you its wholehearted support and cooperation. More than ever you will realize that

*Your NAPA Jobber
is a Good Man to Know!*

The NAPA Seal identifies and confirms the quality of more than 50 essential lines distributed by the nation's largest independent parts organization.



NATIONAL AUTOMOTIVE PARTS ASSOCIATION • DETROIT 1, MICHIGAN

Nash Opens Parts And Service School

Nash Motors has opened a new parts and service training school at its central parts and service plant at Milwaukee, Wis.

The opening series of courses lasting five weeks is being attended by more than 150 Nash service and parts depot managers and service-parts representatives from 28 zones in the United States. Canadian representatives will receive instruction during the fifth week.

Service managers and representa-

tives are given highly-individualized training as each class is limited to four to five men. This necessitated an increased number of instructors, according to H. A. Lotz, parts and service manager and director of the Nash school.

The model service school is under supervision of a dispatcher's control tower from which all activities throughout the service school are directed. The tower serves as a customer information center and as a shop production control system, controlling shop traffic to avoid time wasted in getting cars and replacement parts to mechanics.

William E. Holler Leaves Chevrolet

The resignation of William E. Holler as general sales manager, to take effect October 15, and the appointment of Thomas H. Keating to the post, was announced by M. E. Coyle, general manager of the Chevrolet Motor Division.

Holler has served as general sales manager for twelve years and will retire to live at his home in Florida. He is being retained, however, in a consulting capacity to Chevrolet on its sales and merchandising problems.

Recently Paul H. Nystrom, Ph.D., professor of Marketing at Columbia University and chairman of the board of The Sales Executive Club of New York, said while presenting Holler the Distinguished Service Award of the club:

"He has been called a 'miracle man of modern sales strategy' . . . Many business houses both large and small owe much of their successful selling strategy to the scientific principles first introduced by him through his leadership in the field of selling and salesmanship."

Holler introduced in 1937 five basic selling plans which have now been universally accepted and used by most automobile companies.

During the war, Holler was exceptionally active in many of the nation's war activities. Brigadier General Benedict Crowell awarded him the Army Ordnance Association's gold medal of merit for outstanding service.

Among the members of the selling profession, Holler has been known as an able lecturer and platform speaker. He also is the author of many books and articles on selling techniques, practices and methods. A new record was established by one of his recent books, "America's Salesmen," which had 16 printings and sold 515,000 copies. His most recent book is titled "Selling America Into Jobs."

Buick 1946 Models

(Continued from page 68)

changed to prewar standards, using 4 per cent aluminum.

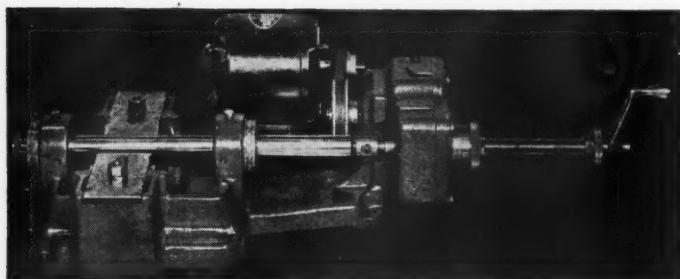
The windshield wiper body is installed ahead of the dash in the engine compartment, thus facilitating adjustment or replacement.

General Motors Head Selected for Conference

Charles E. Wilson, president of General Motors, is reported to have been selected by the automotive industry as its representative in the forthcoming labor management conference in Washington. The meeting between government, labor, and management is expected to get underway in late October or early November.

**ANY SIZE BEARING
YOU WANT AT ONCE!**

It's simple to make any under-size or off-standard bearing with the Lemppo Bearing Re-sizing Machine. Enables you to hold your bearing inventory to a minimum, and still have any needed size right away.



**GOOD
DELIVERY**

WITH THIS BEARING SIZER

700 R.P.M. with a feed of .0019" assures mirror-smooth finishes within .0001" tolerances. Tapered bronze bearings have take-up adjustments so you're sure to have the boring bar in perfect alignment all the time. A direct-reading mike enables you to set the tool faster. Machine illustrated is Model RBA which is power driven but weighs only 125 lbs. Hand-power models are also available.

WRITE FOR CATALOG

LEMPCO PRODUCTS INC. BEDFORD · OHIO · U.S.A. ESTABLISHED 1919	SEE ONE WORK - MAIL THIS COUPON
	LEMPCO, Dept. M.A., Bedford, Ohio Gentlemen: Tell me shop nearest me where I can see a LEMPCO Bearing Re-Sizer in operation. NAME ADDRESS CITY STATE

THIS VERDICT IS RENDERED ON YOUR INABILITY TO STOP



He didn't know how to read his speedometer!

It is really very simple. Whether a truck driver, salesman, teen-age or week-end motorist it should have been learned in school.

Just multiply speedometer reading by $1\frac{1}{2}$.

$35 \text{ M.P.H.} \times 1\frac{1}{2} = 53 \text{ travel feet per second}$

$50 \text{ M.P.H.} \times 1\frac{1}{2} = 75 \text{ travel feet per second}$

That's how to read your speedometer because it is your travel distance in feet per second.

Reaction, fatigue, and leg pressure all decrease your ability to stop safely ... especially at higher speeds.

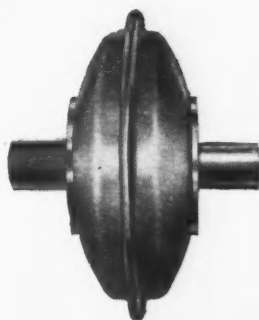
You travel fast — you must stop quickly.

When you add Vacdraulic Power Braking to the hydraulic system of any car or truck it gives that feather touch, instant eye-to pedal-to brake action and that extra margin of safety essential to driving in congested traffic or over highways.

Vacdraulic accomplishes power braking force without action lag, and rods or links to get out of adjustment.

See your Vacdraulic Distributor or write us for details.

VACDRAULIC MODEL 180
For Master Cylinders up to $1\frac{1}{4}$ " diameter



VACDRAULIC MODEL 240
For Master Cylinders $1\frac{1}{4}$ " and $1\frac{1}{2}$ " diameter

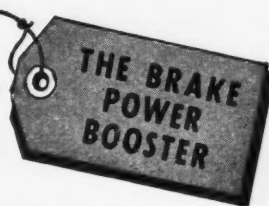
VACDRAULIC

KELSEY-HAYES WHEEL CO., DETROIT 32, MICH.

Sold to Automotive Distributors by

EMPIRE ELECTRIC BRAKE CO., Newark 7, N. J.

VACDRAULIC is a Trade Mark of Empire Electric Brake Company



New Pontiac

(Continued from page 32)

The water pump slinger has been changed to increase the life of the pump shaft. To this end, the sleeve portion of the slinger has been lengthened so that it covers the entire shaft from the impeller forward to the slinger flange.

In the electrical system, the horn wire is encased in loom in the area where it fits in the steering column so as to prevent the possibility of shorting. The headlight dimmer switch has been made dust-proof to assure

freedom from trouble in service. The battery retainer is heavier and more rigid in construction and is given two coats of enamel to prevent corrosion.

Adoption of the new type of radiator grille is said to improve cooling and enables the cooling system to operate some 9 to 10 deg. cooler. The grille is a composite unit made up of chromium-plated steel stampings and small die castings, the latter being used principally for the front ornament and mounting and the vertical spacer bars.

Improvements have been made in the details of body construction. For ex-

ample, the sills, doors and underbody are given a corrosion-resistance treatment to prevent corrosion in service. Rubber weatherstripping is firmly retained by the use of a large number of closely-spaced clips. All plated steel moldings will be made either of polished stainless steel or of brass stampings, chromium plated. Incidentally, chromium plating specifications—when they become effective—call for a heavier and more durable coating.

With the adoption of synthetic tires, Pontiac specifies 5 in. rims instead of the 4½ in. rims formerly used with the 16 x 6.50 in. tires. This is said to improve stability and to reduce power loss materially.



You know, of course, that just putting in anti-freeze does *not* give complete winter protection to the cooling system. You know that for engine safety, the cooling system must be thoroughly cleaned to assure free circulation—to prevent overheating—to keep anti-freeze from boiling over.

So, be sure to have a supply of

WARNER RADIATOR CLEANER ready for the first cold snap; recommend that it be used to remove rust, oil-muck and corrosion from the cooling system *before* anti-freeze is put in. It's fast—thorough—safe—easy to use.

Every drive-in is a prospect for WARNER RADIATOR CLEANER. Sell 'em all—keep all those cars rolling.

WARNER-PATTERSON COMPANY
920 S. MICHIGAN AVENUE, CHICAGO 5, ILL.

WARNER SERVICE CLEANER
...extra strength for trucks
...heavy motors or badly
neglected cars. Fast, non-
poisonous.

WARNER LIQUID SOLDER
repairs leaks in any part
of cooling system quickly,
without mechanical aid.



**WARNER RADIATOR
CLEANER** Cleans the
cooling system

**WARNER COOLING
SYSTEM PROTECTOR**
Keeps the cooling
system clean

WARNER

COOLING SYSTEM

COMPOUNDS

Advertised regularly
in Collier's

Copyright 1945, Warner-Patterson Co.

STANDARD OF PROTECTION

Appointed Manager of Federal-Mogul Service



Don H. Herr, well-known automotive service industry executive, has been appointed manager of Federal-Mogul Service, division of Federal-Mogul Corp., announces H. Gray Muzzy, president.

Mr. Herr leaves the position of manager of the central division of Ramsey Accessories Corp., with headquarters in Indianapolis, to join the Federal-Mogul organization.

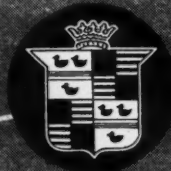
He is eminently qualified for direction of the Federal-Mogul organization, one of the leading service industry manufacturers, by his colorful career which has followed the maintenance field since its early days.

Mr. Herr will maintain headquarters in Detroit. Federal-Mogul Service operates 57 branches and warehouses serving the United States and Canada, as well as an export department, for distribution of Federal-Mogul bearings and related products.

Evans Products Buys Michigan Plant

Evans Products Co. has purchased the government-owned munitions plant operated by Kelsey-Hayes Wheel Co. during the war. Purchase price is reported to be \$1.45 million. Edward S. Evans, executive vice president of the company, states that the plant will be used for production of automobile loaders, trailers, and other types of automobile equipment. Much of the work which previously has been farmed out to subcontractors will be done at the new plant, which is expected to be in operation in about six months.

With the fulfillment of military requirements for radio, radar and electronic equipment, Delco Radio returns to its pre-war assignment as a major manufacturer of auto radios. The full measure of Delco Radio's expanded production facilities and enlarged engineering experience can now be applied to building Delco auto radios for these leading makes of cars: Chevrolet, Pontiac, Oldsmobile, Buick and Cadillac.



A complete line of Delco home radios will also be produced, incorporating the best of all that's new in radio development.

FINISH THE JOB
BUY VICTORY BONDS

Delco Radio
DIVISION OF
GENERAL MOTORS

ENGINEERING VISION-

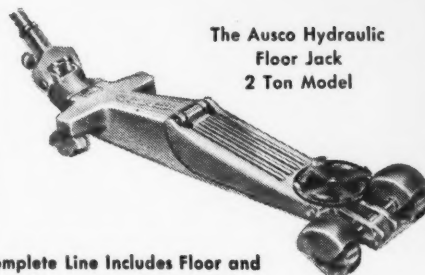


MANUFACTURING PRECISION

*Here's the New, Revolutionary Curb Jack
You'll be Glad to Wait For!*

Now we can "let you in" on some of the worthwhile-waiting-for features of Ausco's Post-war Floor or Curb Jacks:— Streamlined design, Ausco-engineered one-piece frame, a single special alloy steel casting that eliminates "springing"; Ausco's exclusive patented removable power unit assuring easier servicing; and Ausco's specially designed, removable handle for super-safety. From end to end, they're smarter-looking, lighter-weight, better-engineered, smoother-operating!

These new Ausco Jacks, too, already have their service stripes—won by building thousands of jacks used on world-war battlefields and by three decades of experience in building millions of jacks year after year, for practically every make of car.



Complete Line Includes Floor and
Curb Jacks of 1½, 2, 4, 10
Ton Capacity



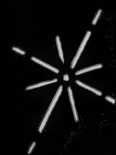
Watch **AUSCO**
for the Latest in Jacks

1286

AUTO SPECIALTIES MFG. CO., ST. JOSEPH, MICHIGAN...WINDSOR, ONT., CANADA

★
destined for the Limelight

AUSCO'S Post-War
Hydraulic CURB JACK
★



The Ausco Hydraulic Curb Jack
1½ Ton Model

Cadillac Presents

(Continued from page 76)

down. Removal of the plug is facilitated by use of a 7/16 in. external hexagon head on the plug in place of 3/16 in. (Allen type) socket in the plug.

A stronger HydraMatic case casting with more generous webbing is used to obtain greater rigidity and provide ample protection against excessive loads and rough handling.

A new design front oil pump is employed with internal-external type gears surrounding the hub of the

front unit drive gear, thereby eliminating the front "cross drive" gears. The improved tooth action plus the smoother oil flow characteristics of the helical gears provide a quieter pumping action.

A simple "blow off" type pressure regulator is used, having fewer lands where foreign material may lodge and cause sticking. The lubrication oil passages have been simplified in conducting the oil first into the fluid fly-wheel and then out through the pressure relief valve to the lubrication system.

A new HydraMatic fluid (Spec. No. WA 389) improves performance un-

der low temperature conditions, due to change in low temperature viscosity characteristics. It reduces starting drag and promotes quick warm-up to normal operating conditions. Detergent and new inhibitor agents have been added to reduce the formation of gum and sludge. An anti-foam additive also is incorporated.

The HydraMatic oil pan and screen has been redesigned to prevent introduction of air into the rear pump inlet and hence cause loss of fluid pressure. The inlet is located lower and further forward. The transmission drain plug has been relocated to the extreme rear end of the oil pan. The pan itself is stamped "HydraMatic Drain" adjacent to the plug. This removes possibility of a service man mistaking the transmission drain for the engine drain.

Synthetic clutch piston seals similar to those used in wheel brake cylinders are effective in holding oil pressure with negligible leakage; hence, higher and more uniform line pressure is maintained even at high temperatures. Excessive overspeeding of the drums is prevented by automatic application of clutch plates. At high rotating speeds the clutch piston is actuated by the centrifugal effect of the oil trapped behind it. The resulting application of the clutch plates, in effect, acts as a brake to retard the drum speed. Closer fitted seal rings with maximum gaps reduced from 0.010 to 0.006 in. maintain oil pressure and give more positive clutch action. Clearance with the outside diameter of the clutch drum has been increased 0.005 in. to eliminate scoring and sticking of rings.

The new intermediate shaft has increased cross-sectional area. Two 5/16 oil holes have been removed from the high stressed portion. The woodruff keyways from the front unit clutch hub keys are eliminated, multiple shallow serrations being provided for this function.

Outstanding improvement in clutch durability is attained by use of high capacity clutch plates. Since the non-metallic clutch facings have greater friction and holding power when engaged, this permits the number of plates to be reduced from 10 to 8 in the rear unit and from 6 to 4 in the front unit. The smaller area of friction surfaces materially reduces drag when disengaged, particularly with cold oil; also permits softening of engagement. The facing material consists of concentric rings of cork composition and "Krafelt" (a Bakelite impregnated paper base) bonded to a steel plate with Bakelite binder under high pressure and temperature. Friction characteristics are stable for the life of the material which on accelerated tests is many times that of the best previous bronze plates.

The reverse mechanism has been
(Continued on page 78)

Enjoy increased sales and greater profits with **Shurhit** IGNITION PARTS ASSORTMENT



★
Extra Quality
Extra Value
★

Satisfactory performance under unusually severe service conditions has repeatedly proved that Shurhit Ignition Repair Parts have that "extra" something.

The Shurhit General Assortment No. 4000, shown above, contains 13 sets of contact points, 12 dis-

tributor rotors, 16 condensers, 11 sets of brushes, 6 distributor caps and 4 coils and brackets. Cabinet is made of steel and finished in a lustrous green.

For details on No. 4000 and other Shurhit Ignition Assortments, ask your Shurhit jobber, or write us.

SHURHIT PRODUCTS, INC.

WAUKEGAN, ILLINOIS

Why Buy Two

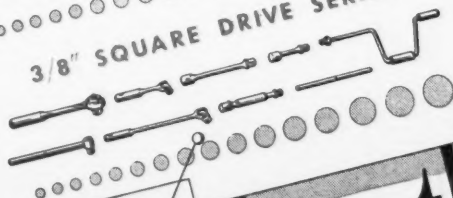
ONE

Today You must buy and maintain two series of socket wrenches for general work

1/2" SQUARE DRIVE SERIES

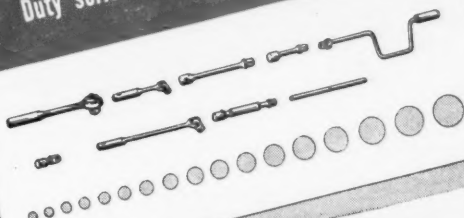


3/8" SQUARE DRIVE SERIES



AFTER THE WAR

You can own NUGGETS! One Double-Duty series serves ALL general work



When does the Job?

YOU WILL SAVE both on Original Cost and UPKEEP!

WHY? Because Blackhawk smashed tradition . . . ignored wrench building practices . . . converted a new super-strength HEXITE steel into slimmer, lighter wrenches. New in design, 7/16" drive NUGGET Socket Wrenches have the *strength* of high-grade 1/2" drive wrenches, PLUS the *practical compactness* of the 3/8" series. Work that formerly demanded two drives, NUGGETS handle with ONE Double-Duty Drive. You can figure the results without a pencil—tremendous initial savings and continuous savings on replacements.

Blackhawk won its reputation with the high quality of its wrench line, including 3/8" and 1/2" drives. Consequently, we can judge this future development in the light of past and present wrench design. We urge you to wait for NUGGETS.

A Product of **BLACKHAWK MFG. COMPANY**, Dept. W6105, Milwaukee 1, Wisconsin

TO PRESENT NUGGET OWNERS: If you have lost any of your NUGGET Wrenches, see your Blackhawk Jobber. He will arrange delivery of the replacements. Blackhawk wishes to protect the investment of present owners, even though Nuggets cannot be made and sold on a mass scale to new buyers until after the war.

BLACKHAWK NUGGET

7/16" Drive Wrenches



3/8" Drive Wrenches



1/2" Drive Wrenches



Don't Buy Two Sets when ONE will do the Job!

SOCKET WRENCHES

Cadillac Presents

(Continued from page 76)

entirely redesigned. Clashing is avoided by using a hydraulic blocker that momentarily retards completion of the shift until the reverse gear stops rotating. The rear gear set now consists of a single planetary unit of 2.63 to 1 reduction ratio, replacing the former double planetary unit of 2.26 to 1 ratio.

The manual shift control detent formerly located on the upper steering column is now inside the transmission where it is kept clean and well lubricated. The principal advan-

tage, however, is more accurate positioning of the manual piston valve lands in relation to the oil port holes in the valve body. A new synthetic seal is more effective in preventing seepage of oil at the manual control shaft.

Considerable attention has been given to improvement of rust and corrosion resistance in the body and accessories. All internal surfaces of body panels, doors and miscellaneous parts below the belt line are painted. As an extra precaution against rust in the rocker sill, ventilation louvers are added to dry out any moisture which may collect in this closure. The metal thickness in vulnerable spots

is increased to reduce the possibility of rusting through. All joints where water or road salts would collect are sealed with a caulking compound. A great deal of rusting around the bottom of the doors, rocker sill, rear pillar and wheel housing panels in the pre-war models can be attributed to drain holes in these compartments being plugged or collapsed. The drain hole slots on the 1946 models have spacers which insure the drain holes remaining open.

Because of material restrictions at the outbreak of the war, many moldings and other fittings on the 1942 models were changed to plain steel. All of these items are now either stainless steel or plated die castings. The chrome plating of all the hardware on the body has been increased in thickness to resist corrosion. The window weather strip channels which were formerly plain steel have been changed to stainless steel. Items such as I.C.V. regulator mechanisms, seat adjuster mechanisms and outside door ferrules, where stampings were substituted in 1942, are now die castings.

Sales Manager Named

Appointment of George M. Ryerson, field engineer of the Plomb Tool Company, as regional sales manager for the Michigan, Ohio and Indiana area has been made by R. W. Kerr, Plomb's vice president and director of sales.

Ryerson will make his headquarters at Detroit, Michigan.

Wire Cored Tire by Firestone Announced

One of the outstanding new developments in tires—a wire-cord heavy duty tire that is practically blowout proof—was announced recently by L. R. Jackson, executive vice-president of The Firestone Tire and Rubber Co.

The tire now in the final experimental stage has withstood severe field and laboratory tests. It has been proved in various kinds of actual heavy duty service and is designed to give exceptionally long mileage in such fields as logging, strip mining of coal and ore and similar activities.

Fine metal wire cord with a very high tensile strength is firmly bonded with rubber to provide the foundation of the new tire. Because of the strength of the metal, fewer plies are required, and the walls of the tire consequently are thinner. This contributes toward cooler running.

The safety secret of the tire lies in the strong but thin construction and the heat-conducting nature of the wire cords. Heat is carried away from the hot spots within the tire and dissipated by the metal.



For Skid's money, a magnet is as good as a brake. For your customers' money, however, give 'em GRAFILD! In split-second spots, where braking must be bulldog-sure yet kitten-gentle, rely on GRAFILD. Get in line — reline with GRAFILD.

WORLD BESTOS CORP.

PATERSON • NEW JERSEY

Dick Haymes

Helen Forrest
and
Gordon Jenkins'
ORCHESTRA & CHORUS



NOW-
Saturday Nights
CBS

...for **AUTO-LITE**

SPARK PLUGS • BATTERIES • IGNITION SYSTEMS



Used Car Ceiling Price Lists to Be Available

A NEW list of dollar-and-cent ceiling prices for used passenger automobiles—revised to reflect the four per cent reduction that became effective July 1—will be available for general distribution to dealers and

local War Price and Rationing Boards shortly, the OPA announced.

The new prices are contained in Amendment 10 to Maximum Price Regulation 540—Maximum Prices for Used Passenger Automobiles—which bears the issue date of September 6, 1945.

Under the regulation, OPA explained, ceiling prices for used passenger automobiles now are automatically reduced four per cent every six months to reflect depreciation and increasing age of cars.

The first four per cent reduction in ceilings under the downward revisions that are to occur every six months became effective July 1, 1945.



**Are You Dreaming of This?
Do You Want to be an Auto-
motive Parts Supplier?
Then Line Up with LION
now... Let us show You how**

The Automotive Replacement Parts Industry is now entering its most active and prosperous era. You can have a part in this activity and share in its prosperity by lining up with LION NOW!

LION Dependable Quality Products are known and in demand all over the world—we have and can furnish the greatest coverage of parts and accessories in the country. There are a few flourishing communities that do not yet have LION DISTRIBUTION—your city or town may be one of them. If so, write or wire us now for complete details.



LION AUTO PARTS & MFG. CO., INC.
1920 S. Michigan Ave., CHICAGO 16, ILL.

NATIONALLY KNOWN DISTRIBUTORS

Tire Figure Controls On Manufacture Removed

ALL restrictions on the number of passenger automobile, motorcycle and bicycle tires that may be manufactured were removed September 6, according to E. D. Kelly, assistant director of the Rubber Bureau, War Production Board. This was effected by Amendment 4 to Rubber Order R-1, which deleted section 4600.10, "tires and tubes" from the order, Mr. Kelly explained.

This action supplemented the cancellation of directives as to the amount of cotton authorized for these tires.

Production of passenger car tubes and small truck tubes, 6.00-16 and 6.50-16, was also removed from quantitative restriction by the same action.

"Control of spare tires for new cars was transferred to the Office of Price Administration under Amendment No. 109 to OPA Tire Ration Order 1-A, effective September 1," Mr. Kelly said. It is understood that OPA will not allow new tires for spares or fifth wheels until the demand for rubber for rolling wheels is in line with the supply."

Truck-Trailer Rationing To End December 1st

THE rationing of all new commercial motor vehicles including trucks truck-tractors and trailers will be terminated Dec. 1, 1945, the Office of Defense Transportation announced today.

On and after that date, Guy A. Richardson, director of ODT's highway transport department, said "A free market will then obtain in the purchase and delivery of commercial motor vehicles: truck sales will be a matter involving buyer and seller except as regulated by agencies other than ODT."

The termination of rationing was effected through the revocation and periodic elimination of various sections of General Order ODT-44A and Administrative Order ODT-27A.

Rationing of commercial motor vehicles was put into effect on Mar. 9, 1942. From that time to July 31, 1945, the ODT released 401,118 trucks, trailers and bus chassis for civilian use.

Vehicle Export Placed Under WPB Control

SINCE the supply of new passenger cars and trucks, now just beginning to roll off the assembly lines, will remain inadequate to meet the full demands of civilian requirements for some time, the War Production Board announced that the export of such vehicles has been placed under WPB control.

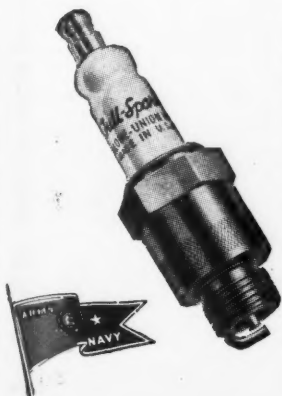
(Continued on page 83)



CLOSE-UP of a NEGLECTED BATTERY

Companion Products

Globe *Full-Spark* Plugs, too, are built to meet the extra demands of replacement service. These modern plugs provide a full, hot spark, and maintain a uniform operating temperature. Easier starting, better gasoline mileage assured with Globe *Full-Spark* plugs.



RECOGNIZE the thumb? It belongs to that recent customer of yours who was in "too-much-of-a-hurry" to get his battery checked. He'll be back—as soon as he gets a lift. But this time, don't let him take any more chances. Install a Globe Spinning Power Battery that's built especially for replacement service.

He'll soon learn what easier, faster starting means—that Globe Spinning Power Batteries save wear and tear on starting mechanism—that these top-quality batteries deliver top-quality service over a longer period of time. And, don't forget to remind him—regular battery care will save him time and trouble.

And what will all this mean to you? Globe Spinning Power Batteries help build your battery business by making a booster out of every user. In most any man's language, that means more sales and bigger profits.

GLOBE-UNION INC., MILWAUKEE 1, WIS.

Atlanta • Boston • Cincinnati • Dallas • Kansas City
Los Angeles • Memphis • Minneapolis • Philadelphia • Seattle

MA-1045



AHEAD OF THE FIELD *with* WIDER HEAT RANGE PER PLUG



Again, AC engineering leads the way to better spark plug performance, by increasing the Heat Range of each plug so that it more widely overlaps that of the plug next above and below it on the chart.

Now you can offer your customers longer electrode life—better engine performance with today's low-octane fuels—greater freedom from soot and oxide coating—preservation of power under difficult operating conditions.

Always, with AC you sell the utmost in spark plug reliability, because of AC's constant pioneering, which keeps it ahead of the field.

—SEND FOR AC SHOP MANUALS—

Field Service Dept., AC Spark Plug Div., G. M. Corp.
910 Mott Foundation Building, Flint 3, Michigan

Gentlemen: Please send at once, no charge,
the AC Shop Manuals checked: **MA-10**

- | | |
|--|--|
| <input type="checkbox"/> HOW TO SERVICE SPARK PLUGS | <input type="checkbox"/> How to Service Oil Filters |
| <input type="checkbox"/> How to Service Spark Plug Cleaner | <input type="checkbox"/> How to Service Fuel Pumps |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | <input type="checkbox"/> How to Service Air Cleaners |
| | <input type="checkbox"/> How to Service Speedometers |

NAME _____

FIRM _____

STREET ADDRESS _____

CITY _____

STATE _____



**SPEED FINAL
VICTORY—BUY
WAR BONDS**

SPARK PLUGS

Washington Rulings

(Continued from page 80)

The new order, L-352, prohibits producers of automobiles and trucks from exporting to any foreign country, including Canada, any vehicles in excess of the quantities authorized for such purpose by the War Production Board.

WPB said that the export quota allowed producers of passenger cars would be based upon the individual producer's export-commercial production ratio of 1935 and 1939 inclusive and computed upon information furnished by them.

Percentages of truck production allowed for export will be based upon similar figures for 1936 and 1940.

Regional Director Appointment Announced

J. A. KRUG, Chairman of the War J. Production Board, announced the appointment of Walter F. Wright as Regional Director of the Detroit region, effective October 1, to succeed Carsten Tiedeman, who is returning to his private business.

Mr. Wright, at present chief Deputy Regional Director in Detroit for WPB, went to Washington in June, 1942, with the Automotive Division. He later went to Detroit to become liaison officer between WPB and the automotive industry for Ernest Kanzler who was at that time head of the Automotive Division, and Detroit Regional Director of the War Production Board. In 1943 Mr. Wright was appointed Deputy Director in charge of the Automotive Division. In October, 1944, he was appointed as Mr. Tiedeman's chief deputy in Detroit.

Prior to the war, Mr. Wright was associated with Graham-Paige Motors as vice president. Subsequent to that he was president of his own company, the Walter F. Wright Company in Cleveland, Ohio, operating as Chrysler distributor for both Cleveland and Cincinnati.

Mr. Tiedeman became Regional Director for the War Production Board in Detroit on March 9, 1944. He is a director of the Hudson Motor Car Company.

P.A.A. Silver Anniversary Convention Scheduled

The silver anniversary convention of the Pennsylvania Automotive Association is scheduled to be held on October 15 through 16 at Pittsburgh, Pa., P.A.A. officials announced.

Speakers will include George Romney, general manager, Manufacturers Association, Lee Moran, newly appointed executive vice president of NADA, and John Fassitt and several other well-known automotive men.

Among several of the subjects to be discussed will be the Finance Probe. A panel of speakers, composed of dealers, will hold an open forum on the subject for the benefit of dealers present at the convention.

New Branch at Albany Opened by Reo Motors

Addition of a new factory-operated branch of Reo Motors, Inc., at Albany, N. Y., as initial step in a post-war expansion program to augment Reo's sales-service network of strategically-located factory branches throughout

the U. S. and Canada, was announced recently by Don Streeter, general sales manager.

Necessary parts and special service equipment, to meet increasing transportation needs of the central New York and New England industrial areas, will be on hand at the new Albany branch in time to begin operations October 1st, as originally scheduled, Streeter said. Management of the new branch, located at 149 Broadway, Menands, Albany, has been assigned to Miles Chaffin, who recently returned to Reo after prior service including direction of the Philadelphia branch.

Put More
ACTION
into
Ignition

with **NIEHOFF**
APPROVED QUALITY PRODUCTS

There is a lift awaiting ignition-hungry motors, headlights, radios, heaters, and other electrically operated units in NIEHOFF Approved Quality Products.

They pack extra punch and power that assures quicker starting, smoother acceleration and sustained performance. They embody a high quality of materials and workmanship that enables you to do quality work that attracts quality customers.

Each NIEHOFF Part is attractively packaged and plainly marked for quick, easy identification. One complete simplified catalog with a single code system for all makes of cars speeds up ordering and service.

Ask your Jobber for NIEHOFF Products Today and put more action into ignition.

C. E. NIEHOFF & CO • 4925 LAWRENCE AVE. CHICAGO 30, ILL.

BRANCHES: 1242 S. Flower St., Los Angeles 13, Calif.; 230 W. 34th St., New York 19, N. Y.

Legally Speaking

A lawyer's interpretation of federal and local court decisions of interest to repairmen and car dealers

Truck Accident

Repairmen using contract haulers to have goods transported and delivered will be interested in a recent Federal Court decision involving a truck accident.

A manufacturer contracted for the hauling of his products with the owner of a fleet of trucks. The contract was at a specified rate per hundred

weight per mile. The drivers of the trucks were employed and paid by the truck owner.

One of the truck drivers had an accident in which a man was hurt. The injured person sued the manufacturer on the ground that the negligent truck driver was at least indirectly the agent of the manufacturer for the purpose of delivering the goods hauled.

The court decided that the injured party could not recover from the manufacturer on this ground. Since the manufacturer had no control or supervision over the truck driver, and since the truck owner who had the hauling contract was in a very definite sense an independent contractor, the manufacturer could not be held responsible for the negligent acts of the truck driver, even though the driver's negligence occurred in the course of delivering the manufacturer's products. (*Craige vs. Austin Powder Company, United States Circuit Court of Appeals for the Fourth Circuit, No. 4183*).

FINGERS CROSSED?
Not When You Use
K&W
Radiator SEAL
THE GUARANTEED METHOD
FOR REPAIRING LEAKY RADIATORS
FOR PREVENTING RUST
MANUFACTURED BY
KERKLING & COMPANY
BLOOMINGTON, INDIANA, U.S.A.
RETAILS FOR
\$1.00
AND WORTH IT!

● No guessing when you use K&W Radiator Seal! K&W is guaranteed to stop leaky radiators or MONEY BACK! K&W is the final test—if the break is too great for K&W, only a competent radiator shop can make the repair.

Seals in 30 minutes or less... does not affect hoses or thermostats, leaves nothing in suspension. Order the special K&W "63" Deal which offers even larger profit than usual. Kerkling & Company, Bloomington, Indiana.

Remember... If K&W can't fix it, NO SEAL can!

K&W Metallic Seal **K&W** Mechanical Method

Two guaranteed means of repairing virtually every type of engine heat, freeze or stress crack. Ask your jobber about them.

Labor Relations

Labor litigation has been out in front of late with labor decisions and appeals turning up from all parts of the country. Here are two interesting ones:

If there is uncertainty as to whether or not an employer is engaged in interstate commerce, the burden is on the National Labor Relations Board to show that the employer's business is within the Board's jurisdiction. The employer, in brief, must be either engaged directly in interstate commerce or in an enterprise affecting interstate commerce. (*Myers vs. Bethlehem Shipbuilding Corporation, 89 Federal Reporter, second series, 1000*).

A manufacturer announced that he would close his plant and liquidate his business if continued operation depended upon recognition of a certain union. This was after an election to select a union as a collective bargaining agency was ordered by the National Labor Relations Board. The Board found that the manufacturer's announcement of intended closing was not made in good faith and was put forth solely for the purpose of intimidating employees and discouraging membership in the union. His announcement, the Board felt, was intended as a means of coercing employees, contrary to the letter and spirit of the Wagner Act. (*Oregon Worsted Company vs. United Textile Workers of America, Case No. C-167, National Labor Relations Board*).

Libel of Competitor

"Knocking" a competitor is always poor business policy, but recently a distributor went to such lengths in making accusations against a competitor that Federal court awarded the libeled competitor \$11,000.00 damages.

The distributor had national distribution for a product sold under a well-known trade name. The maker of a competitive product used a name containing one of the words included in the original product name.

The distributor regarded this competitive trade name as a flagrant infringement. (Continued on page 86)

HOT WIRE

about wire!

AUTO-LITE WIRE AND CABLE

AGAIN AVAILABLE ON R.S.D. PLAN ...

SEE YOUR JOBBER'S SALESMAN



So many dealers took advantage of our first Auto-Lite R.S.D. Wire and Cable Plan that we were swamped with orders. Now we can again accept orders on the R.S.D. Plan for prompt shipment.

Remember the R.S.D. Plan assures bal-

anced stocks, special sales helps, national identification. You tie in with extensive Auto-Lite advertising via top magazines and radio to millions and millions of car owners. Act now so you, too, will benefit from the R.S.D. Plan. Ask your jobber or write to

THE ELECTRIC AUTO-LITE COMPANY • TOLEDO, 1, OHIO • Merchandising Division • TORONTO, ONTARIO

AUTO-LITE *Automotive* WIRE and CABLE

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES — EVERY TUESDAY NIGHT — NBC NETWORK

OCTOBER, 1945

When writing to advertisers please mention Motor Age

85

Legally Speaking

(Continued from page 84)

fringement of his own trade mark. In one instance at least he wrote to a local dealer handling the competitive product and requested that the dealer "immediately discontinue the sale of this infringing product." The letter also intimated a lawsuit against the dealer if he failed to comply with this request.

In the lawsuit subsequently brought by the competitor it was alleged that the original distributor had written similar letters to various customers of the competitor and that this had

been done continuously and systematically for the purpose of destroying the competitor's business.

At any rate, the United States Circuit Court of Appeals for the Ninth Circuit thought that the damage resulting from these letters was serious enough to warrant a verdict of \$11,000. Which suggests that it may be expensive business to call a competitor names. (*Liquid Veneer Corporation vs. Smuckler*, 90 Federal Reporter, second series, 196.)

Business Good Will

Here are some shrewd and practical observations on the subject of

good will and fair competition by a Federal Court in a recent case.

"Good will may be defined as a favorable consideration shown by the purchasing public to goods known to emanate from a particular source. While its existence may be shown by proof of actual successful operation, it may also be shown by proof of the reputation which arises from such operation. It may exist in territory where no business is done by the possessor of the good will.

"The right of the owner of good will to be protected is not limited to the prevention of actual market competition. Protection against unfair competition extends to all cases in which one party fraudulently seeks to sell his goods as those of another. 'Unfair competition' is a convenient name for the rule that no one shall be allowed to sell his goods as those of another. The general rule is that priority of adoption of a trade name or distinctive advertising features gives exclusive right to their use."

In the case in which the court made these comments the contest was between two business competitors whose names, types of buildings and advertising slogans were alleged to be so similar as to mislead and deceive the public. (*White Tower System vs. White Castle System*, 90 Federal Reporter, second series, page 67).

New Motor Vehicle

The Regal Manufacturing Co., Coldwater, Mich., have announced a new motor vehicle called the Motor Chair.

The vehicle is fully streamlined, and is mounted on three wheels provided with 3.50 x 12 pneumatic tires and tubes. The overall length is 54 inches, 36 inches high, 32 inches wide and weighs 135 pounds. The engine is 1½ h.p., 4 cycle air cooled. Speed of the vehicle is 20 m.p.h., with 100 miles to the gallon of gasoline.

The vehicle can be controlled with either hand and moves backward as well as forward.

Elected President Kellogg Division

William T. Kelly, Jr. has been elected president of the Kellogg division, it was announced today by Wm. B. Green, Jr., president of American Brake Shoe Company. Mr. Kelly has been executive vice-president of Kellogg since December, 1944.

Mr. Kelly joined American Brake Shoe by way of National Bearing Metals Corp., a subsidiary. He was transferred to Brake Shoe's Purchasing Department in New York in 1929 and became general purchasing agent in 1940.

J. F. Weller, formerly president of the Kellogg division, will now devote his full time, as director of automotive sales, to post-war development programs for Kellogg and American Brakeblok Divisions.

THERE IS A Knock-Out JOBBER NEAR YOU!

Knock-Out

DRILL CHUCKS

are doing an ideal job on

SMALL ELECTRIC DRILLS

HEAVY DUTY DRILLS

DRILL PRESSES

RADIAL DRILLS

TURRET LATHES

ENGINE LATHES

and wherever good Chucks are needed.

They're Keyless



K. O. LEE CO.
ABERDEEN, SOUTH DAKOTA

Please send your NEW
DRILL CHUCK BOOKLET No. 5-05

NAME _____
STREET _____
CITY _____ STATE _____
COMPANY _____

Journey into TOMORROW

This is not just a picture of a boy and girl going off to school. This is a picture of American youth journeying into the future.

Journeying eagerly and unafraid, knowing not what's coming but happily and healthily confident they will be equal to it.

And they do not walk alone.

Looking forward to coming things, we too see a future for America eagerly to be faced.

We see a world made hungry for the good things of life by years of concentration on war and its destruction.

Men of science are moving forward with new methods and improved products. Turned to the uses of war, peace-built techniques proved valuable beyond all words to our fighting men. And with the return of peace, ever-better ways of doing things will result in a flood of new benefits to mankind.

From all this will come opportunity in many forms.

Opportunity to build the many things the world cries out for.

Opportunity for good wages for those ready to earn them.

Opportunity to continue the forward drive which brought your present General Motors car to its high state. The same sort of year-by-year progress that gave even the lowest priced cars the smoothness of Knee-Action, the beauty of Body by Fisher, the security of turret top and steadily increasing economy, power and efficiency in their engines.

Plainly, no one can tell these youngsters now what their future cars will be like. Nor their homes, refrigerators, radios and such.

But they don't need to worry about that.

For in this land, where nothing has long halted the steady march of human progress, tomorrow will be better than today.

And General Motors, holding steadfast to its purpose of building "more and better things for more people," will do its full part to see that it is.

GENERAL MOTORS

MORE AND BETTER THINGS FOR MORE PEOPLE

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK
CADILLAC • BODY BY FISHER • FRIGIDAIRE
GMC TRUCK AND COACH • GM DIESEL

Every Sunday Afternoon
GENERAL MOTORS SYMPHONY OF THE AIR
NBC Network

**KEEP
AMERICA STRONG**

★
Buy More War Bonds



Kaiser Leases Main Building at Willow Run

Kaiser-Frazer Corp., newly-formed automobile concern headed by Henry J. Kaiser, West Coast shipbuilder, and Joseph W. Frazer, president and chairman of the board of Graham-Paige Corp., has leased the main manufacturing building at the Willow Run bomber plant for a five-year period. The building contains 2,650,000 sq. ft. of manufacturing floor space and approximately another million sq. ft. of mezzanines and balconies.

According to RFC sources, the deal is ready for consummation, pending the approval by SEC of a reported \$18 to \$20 million stock issue.

The building would be used for production of the Kaiser car, a low priced vehicle, and the Frazer, medium priced car. Clearance of the plant is already nearing completion and occupancy probably could be given in something under 90 days, according to best estimates. It is understood that the company submitted figures to RFC indicating that employment will reach about 20,000 at full production.

MILES + PERFORMANCE *determines* QUALITY

The average motorist cannot distinguish real QUALITY in the various brands of automotive bearings. His only guide to real worth is the amount of service the bearings deliver. But you can help him. Sell Johnson Bronze Bearings. Then you know he cannot get higher quality anywhere. Our more than forty years exclusive bearing experience . . . plus the fact that we supply much of the original equipment . . . enables us to guarantee real QUALITY. When you sell Johnson, you sell performance. Write for new catalogue.

JOHNSON BRONZE COMPANY
455 S. MILL STREET NEW CASTLE, PA.



Rayon's Use in Tires Told in Booklet

The story of rayon's use in tires, which has increased to more than 20 times its prewar capacity, is interestingly told in a 16-page illustrated booklet, "Rolling on Rayon," just released by Industrial Rayon Corp., Cleveland, Ohio.

Sketches are freely used to explain the basic differences between rayon and natural fibers, differences which give rayon cord tires longer life and make them lighter, cooler running and safer whether produced of natural or synthetic rubber.

Similarly, illustrations and text are used to tell how rayon is made and to describe in greater detail special methods of spinning, twisting, twist-setting, coning and weaving, which are used in the production of Industrial's yarn, cord and fabric.

Copies of the booklet are available on request through the company's advertising department at Cleveland.

Wire Gauge Calculator

A pocket-size rapid calculator to determine the recommended loading of standard gauge primary wire has been developed by the merchandising division of The Electric Auto-Lite Company.

The calculator, which is printed in appealing colors, allows for the instantaneous determination of the gauge of wire recommended for headlights, tail, marker and rear light circuits, as well as correct generator and power circuit wiring. Trade numbers of the various wire gauges also is shown.

New Governor Manual

The Hoof Products Co., 6543 S. Laramie Ave., Chicago 38, Ill., has just issued a new governor manual called "Everything Under Control."

This new manual contains complete data on Hoof governors, including construction pictures, operating characteristics and types suitable for various applications. Included in the manual are charts containing data necessary for ordering governors for specific installations. Charts covering Hoof governor applications for trucks, buses, tractors and engines by makes are also included. Copies of the manual may be obtained by writing the manufacturer.

Valve Seat Ring Book

The K. O. Lee Co., Aberdeen, S. D., has just announced a new booklet entitled, "Valve Seat Ring Data Book."

The booklet is complete with specifications and information on valve seat rings as well as recommended sizes and information on valve seat grinding wheels.

Colossus of the Cross Roads ... your fortune depends on his

IT'S a fact, not a theory, that your income—no matter how you earn it—is geared to the farmer's income. If he's prosperous, so are you. Agriculture's people are so big a part of our population that any increase in their buying power pushes the whole national income up.

That's why it matters to you that the farmer earned \$28,000,000,000 last year, has some \$16,000,000,000 salted away in savings, has his future income assured by "parity price" guarantees.

Even during the war, the American Farmer was a colossal operator—driving 4 million autos, over a million trucks, better than 2 million tractors. As new automotive equipment and farm machinery become available again, watch that big market get bigger still. According to the Department of Agriculture, under fairly favorable conditions he'll buy some 200,000 tractors a year, and will lay a billion dollars on the line for new trucks and cars.

A colossal market just ahead, from farmers alone! And the best way to reach it is through the farmer's favorite magazine. Some proof: (1) Coast to coast, jobbers overwhelmingly pick Country Gentleman as the top rural magazine in selling effectiveness; (2) Country Gentleman has always been 1st choice of automotive advertisers; during the last five years, for example, the auto, truck, tire and accessories industries, combined, invested 37% more advertising dollars in Country Gentleman than in any other rural magazine.

See to it that this sales-making magazine is behind you in the competitive months ahead.

What business can ignore the farmer's strength?

Country Gentleman

A CURTIS PUBLICATION

No. 1 with FARMERS—RURAL DEALERS—ADVERTISERS

Ford Personnel Changes Announced

Announcement of several promotions and transfers affecting personnel of Ford Motor Company branches was made by J. R. Davis, director of sales and advertising.

M. D. Brown, manager of the company's Louisville branch has been transferred to managership of the branch at Oklahoma City.

Mr. Brown succeeds A. E. Klemmedson, resigned. He joined the

company in 1922 at Kansas City, where he became assistant manager four years later. He served as manager successively of the Memphis, Kansas City, Omaha and Denver branches before going to Louisville on Oct. 1, 1943.

Mr. Davis also announced transfer of H. Y. Ingram, manager of the Indianapolis branch, to the Memphis branch as manager; transfer of Thomas J. O'Neil, manager of the Memphis branch, to the Indianapolis branch as manager; transfer of C. A. Mills, assistant manager of the

Omaha branch, to the Chicago branch as assistant manager; promotion of W. G. Austin to assistant managership of the Cleveland branch, and promotion of L. J. Van Horn, sales manager at Chicago, to assistant manager of the Denver branch.

U. S. Rubber Co. Program Development Announced

A new and comprehensive business development program geared to the requirements of the independent tire distributor is now in preparation by the U. S. Tires Division of United States Rubber Co. D. W. Walsh, sales manager, announced. Designed to keep the distributor abreast of modern merchandising trends, the program covers every phase of successful sales and service operation to insure maximum volume and increased profits, he said.

Recognizing that no two distributorships are identical in every respect but rather reflect the individual distributor in relation to his market, the new program will assist each distributor in the full development of his particular market through individually prepared business development plans, he explained.

One of the services provided through the program is a store planning department, equipped to study the building and layout problems of individual distributors. The aim of U. S. store planning is to make the best possible use of a given amount of space, and to help create maximum volume of business as is possible for any given place of business.

Hole Cutter Kit

A new kit for cutting holes of various diameters in wood, metal or plastics is announced by Bruno Tools, of Beverly Hills, Calif., makers of Bruno Adjustable Hole Cutters and Bruno Expansive Bits for woodboring.

The Bruno Kit No. 790 is available with straight shanks for use in drill presses, pneumatic and portable electric drills. It contains one Model No. 100 Adjustable Hole Cutter (with $\frac{1}{4}$ in. shank) for cutting holes $\frac{5}{8}$ in. to $1\frac{1}{4}$ in. and one Model No. 101 ($\frac{3}{8}$ in. shank) that cuts holes 1 in. to $2\frac{1}{2}$ in. Thus the Kit covers all diameters $\frac{5}{8}$ in. to $2\frac{1}{2}$ in. Tools are equipped with high-speed steel blades having an all-purpose grind for cutting efficiently in wood, metal, transite, masonite and other "problem" materials.

Bruno Hole Cutter Kit No. 790 is available at mill supply jobbers, hardware stores, automotive, plumbing, woodworking or electrical supply jobbers. Additional information may be obtained by writing Bruno Tools, Beverly Hills, Calif.



LET a Wayne Air Compressor do the "heavy" work. It will handle many a hard job around the busy shop at lower cost. Remember Wayne Air Compressors are not only ruggedly built for a lifetime of service but have behind them a unique Nation-wide Organization of factory trained service men that assures uninterrupted operation. Wayne Compressors are made in a complete range of sizes up to 10 H.P., 40 c.f.m. Write today for catalog.

THE WAYNE PUMP COMPANY
FORT WAYNE 4, INDIANA

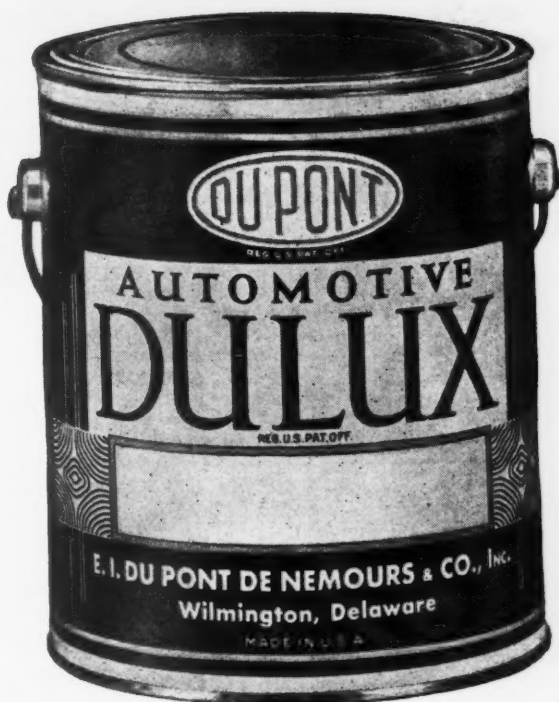
Wayne AIR COMPRESSORS

DU PONT DULUX

REG. U. S. PAT. OFF.

Back Again!

BEFORE THE WAR, "Dulux" was the most widely used enamel for the refinishing of both passenger cars and commercial vehicles. It was the standard by which all other finishes in its field were judged. Now it is back again for civilian uses, and our production facilities are going all out to meet your requirements. You'll be glad you waited just a little longer for the real thing. E. I. du Pont de Nemours & Co. (Inc.), Refinish Sales, Wilmington, Del.



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Appointed Head of Ethyl Research Staff

John B. Macauley has been appointed director of engineering research for Ethyl Corp. to succeed Earl Bartholomew, who becomes general manager of research laboratories, it is announced. Jack Macauley, who is widely known for his contributions to the coordination of fuel and engine research, has been chief of applied research for Pratt and Whitney Aircraft for the past two years and for many years was chief of the engine laboratory of the Chrysler Corp.

A native of Washington, D. C., Mr.

Macauley was associated for a year and a half as a sales engineer with the American Brake Shoe Company. In May, 1923, he joined the engineering department of Maxwell Motor Corporation, later absorbed by the Chrysler Corp. During most of his 20 years with Chrysler he was chief of the engine laboratory.

He is a member of the American Society of Mechanical Engineers, the Society of Automotive Engineers, American Society of Testing Materials, and American Association for Advance of Science, and from 1941 to 1944 was chairman of the War Advisory Committee of the Coordinating Research Council.

Henry Ford II Named Head of Company

Henry Ford II was named president of Ford Motor Co. late last month succeeding Henry Ford, his grandfather, who resigned.

The appointment of Mr. Ford II who has been executive vice president since April 28, 1944, was made by the directors after they had accepted Henry Ford's resignation. Mr. Ford's letter to the directors follows: "I hereby resign the office of president of this company to take effect upon acceptance. I feel free to take this step at this time because the critical period during which I again assumed office has passed. As you know, I have many personal interests to which I now desire to devote most of my time. I shall be glad to remain on the Board and to assist in an advisory way.

Mr. Ford II was elected a director of the company on Dec. 19, 1938, and was appointed vice president on Dec. 15, 1943. His advancement to the executive vice presidency came in April, 1944.

The elder Mr. Ford's resignation marks the second time he has relinquished the presidency of the company. He first became president on July 14, 1906, and held the position until he was succeeded by his son, the late Edsel B. Ford, on Dec. 31, 1918. On June 1, 1943, a few days after Edsel Ford's death, he again assumed the office. Ford Motor Co. Directors, in addition to Henry Ford and Henry Ford II, are: Benson Ford, H. H. Bennett, B. J. Craig, M. L. Bricker, R. R. Rausch and Frank Camsall.

Packard Announces Cleveland Manager

The Packard Motor Car Co. today announced appointment of Del B. Short as sales manager of the Cleveland region, encompassing distribution zones in Buffalo, Pittsburgh, Cleveland and Washington.

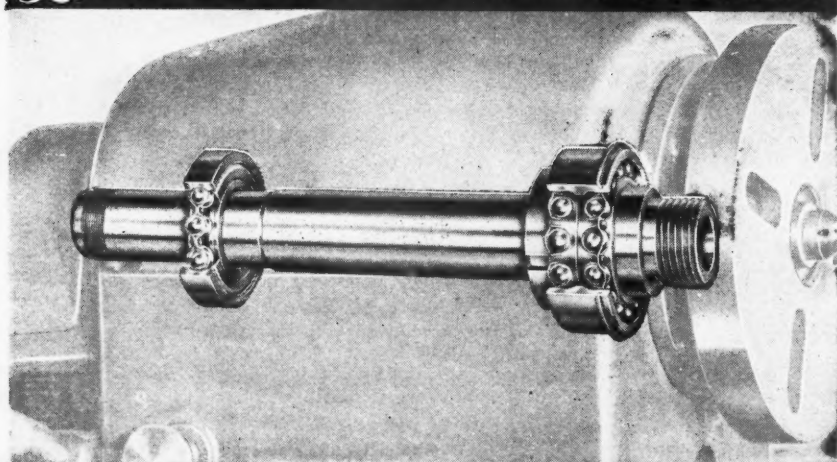
Assignment of Short was announced by company vice president and general sales manager L. W. Slack.

Other regional managers, previously named, are R. J. Froiseth, R. W. Cragin, W. C. Herring and W. R. Bellows.

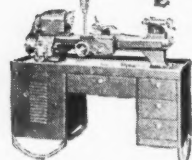
Short has been affiliated with the automotive industry in sales capacities since 1919.

He joined Packard in 1936 as regional manager in Washington. During his nine years with the company he has served as regional manager in Washington, Philadelphia and New York, and as wholesale manager in Philadelphia and Boston.

Logan A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES



No. 200
Screw Cutting
Lathe



No. 825 Cabinet Model
Quick Change Gear Lathe

SPECIFICATIONS common to all Logan Lathes: Swing over bed, 10 1/2". Bed width across ways, 6-15/16". Bed length, 43 1/8". Size of hole through spindle, 25/32". Spindle nose diameter and threads per inch, 1 1/2"—8, 12 Spindle speeds, 30 to 1450 r.p.m.; Size of motor, 1/2 or 1/3 h.p., 1750 r.p.m.; Preloaded precision ball bearing spindle mounting; Drum type reversing motor switch and cord; Precision ground ways, 2 prismatic "V" ways, and 2 flat ways.

Higher Cutting Speeds Without
Bearing Adjustment on

Logan LATHES

THE pre-loaded ball bearing spindle mounting is one of the advanced design features which make Logan Lathes specially adapted to the needs of modern shops. With resulting increased spindle speeds, full advantage can be taken of the high cutting speeds used with carbide cutting tools. No bearing adjustment is required within the full range of Logan spindle speeds, from 30 r.p.m. to 1450 r.p.m., regardless of the cut. With Logan Lathes, consequently, the precise factory alignment of the spindle is not disturbed by periodic bearing adjustments, and original spindle accuracy is sustained. Grease-sealed, the ball bearings require no further lubrication or attention throughout their long service life. Maintenance costs and down time are kept at a minimum. The ball bearing spindle mounting is another reason why Logan Lathes increase output and decrease unit costs on production lines, and reduce man-hours per cutting job in tool rooms. For information on all Logan Lathes, see your nearest Logan dealer, or write direct for descriptive catalog.

LOGAN ENGINEERING CO.

CHICAGO 30, ILLINOIS

F-2



FRAM LAUNCHES HUGE NATION-WIDE NEWSPAPER ADVERTISING CAMPAIGN



Dealers! Tie in for added sales, extra profits!

Yes, Fram is giving you the biggest advertising support in oil filter history to boost your filter and cartridge sales! Throughout the fall, about 4,100 newspapers from coast to coast are carrying big, smashing Fram ads! Watch for these powerful ads in your local paper . . . ask your wholesaler how to tie in with ads of your own! And remember, in addition to this tremendous new newspaper campaign, Fram is greatly expanding its program in Life, The Saturday Evening Post, Country Gentleman and other big national magazines. Fram is spending big money to build profits for you!

NEW FRAM DISPLAYS

Pictured below are just some of the new money-

making displays and sales aids Fram offers you! Ask your jobber about these red-hot displays, about the snappy

coveralls and shopcoats available to Fram dealers! And ask every motorist, "How's your oil filter?" It's the easy way to extra profits. Recent surveys show that 51% of the cars on the road need filters, many more need cartridges. Here is additional proof that Fram means big markets, big sales!

FRAM CORPORATION, Providence 16, R. I.

In Canada: J. C. Adams Co., Ltd., Toronto

FRAM



Buy more Bonds—Keep the Bonds you have!

Oil and Motor Cleaner



Willys Reorganizes Engineering Staff

Announcement of the realignment of Willys-Overland's engineering department, including appointment of Phillip C. Johnson as administrative assistant, and Walter R. Benning as chief engineer of the chassis division, was made today by Delmar G. Roos, vice-president in charge of engineering.

In his new position Mr. Benning will handle all technical and design problems incident to developing

chassis for the company's entire line of automotive vehicles. Assisting him will be Lee O. Burt in charge of passenger chassis engineering, and Charles Cuma, of truck and motor engineering.

As assistant to Mr. Roos in charge of administrative matters, Mr. Johnson will supervise experimental production and experimental shops, labor relations, the quality engineering group and specifications division.

Staff additions include Robert H. Green as agricultural engineer. Credited with the development of a num-

ber of farm appliances, Mr. Green will cooperate with agricultural equipment manufacturers in connection with Willys production of the new Universal Jeep for civilian use.

Edgar C. DeSmet remains as chief engineer of the body division, while D. D. Stone and Roger F. Mather continue as director of research and chief metallurgist and chemist, respectively.

New Tire Spreader

A new air-operated tire spreader has been introduced by the Char-Lynn Co., of Minneapolis. The light, powerful spreader unit includes a wall bracket which may be placed at convenient working height allowing fast, easy inspection. The light spreader operates with one hand to open a tire casing a full 11 inches. A light built into the wall bracket floods the inside of the tire. Cuts, bruises, loose cords, etc., show up so the customer can easily see them.

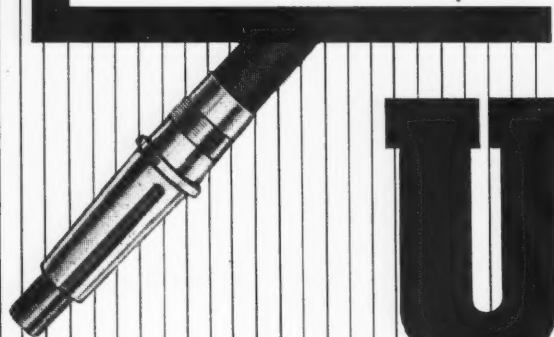


This new spreader is space saving and powerful enough to handle any tire. The wall bracket supports two rollers over which the tire is hung and rotated and a hooded light that shines directly into the spread tire. The spreader unit connects to any air line and opens and closes with a simple twist that operates the air valve in the handle. When the spreader is not in use it hangs over the rollers on the wall bracket so that no floor space is required.

This new spreader is excellent for making simple repairs. It spreads the tire but does not distort it, the manufacturer states. Boots or patches will not wrinkle when the tire resumes its normal shape.

For further information write to the Char-Lynn Co., 1920 Washington Ave. S., Minneapolis, Minn.

PIONEERS in the automotive and kindred fields since 1920. Better materials and war gained "know how" assure you a superior product in the days of peace ahead. Ask your Jobber for....



US AXLES

THE U. S. AXLE CO., INC., POTTSTOWN, PA., U.S.A.

**"PRECISION PARTS MAKE MOTORS PERK
BRING BETTER PROFITS FROM BETTER WORK"
KING QUALITY**



KING QUALITY

**"Building for the future on a 25 year record"
ST. LOUIS 10, MO., U.S.A.**

**PISTON RINGS • PISTONS • PINS • VALVES
BOLTS • BUSHINGS • SILENT-U SHACKLES**



**BEARINGS • WATER PUMP PARTS
SLEEVES • WHEEL SUSPENSION PARTS**

112,042 Motor Vehicles Surplus in Europe

Theater commanders in the European and Mediterranean Theaters have been directed to declare 112,042 motor-powered vehicles and 11,000 trailers surplus to the Army following a redeployment survey by a committee of well-known automotive experts, the War Department said recently.

Immediately after the report was presented to General Brehon Sommervell, commanding general, Army Service Forces, appropriate officials in both theaters were authorized to turn over the surpluses to the field commissioner for the Army-Navy Liquidation

Commission for disposition; but from the total number, the War Department authorized the European Theater to turn over 13,000 vehicles to FEA and 3,022 in the Mediterranean to UNNRA. None of the other vehicles has been earmarked by the War Department.

The committee, appointed by General Sommervell on May 18, made its inspection in June and July just prior to the surrender of Japan. The report stated that more than 250,000 vehicles in ETO and MTO were available for reconditioning for redeployment to the Pacific, if needed.

In ETO, as of June 30, 1945, the report states, there were 514,540 vehicles and trailers on hand. Some 11,036 had been redeployed by that

date. There were 85,343 vehicles and trailers on hand in MTO on June 30 after 7,795 had been redeployed.

Elected to American Bantam Car Co. Board

At a meeting of the directors of the American Bantam Car Co. of Butler, Pennsylvania, held September 24th in New York City, James D. Mooney, vice president of General Motors Corp. and Jerome P. Bowes, Jr., president of Bowes & Co., Inc., and vice president of W. A. Alexander & Co., of Chicago, Illinois, were elected directors, according to an announcement of Francis H. Fenn, chairman of the board and president of American Bantam.

Mr. Mooney was recently released to inactive duty as a Captain in the United States Navy after four years of service. He was originally responsible for the organization and later, for the direction of the Overseas Operations of General Motors.

All-Purpose Charger

A new automotive battery charger has been announced by the Kathanode Corp., a subsidiary of the National Battery Co., St. Paul, Minn.

Known as the "Kathanode All-Purpose Charger," the new unit has many features designed to simplify the process of testing and charging automotive storage batteries. Among the features are the one-control testing

SAYS THE MAN IN THE HELMET—

"For flat, smooth fillets on vertical and overhead welds, you can't beat AIRCO No. 230 Electrode—AWS Classification E 6011"

"... It's tops in the field for all-position AC welding."



1 "I like the neat, smooth fillets it gives on vertical and overhead welding. They're unusually strong, deep welds, too—good enough to meet strictest code requirements."

2 "The metal sets up rapidly, which is one of the important reasons why this Airco No. 230 electrode is an especially fine electrode for making vertical and overhead welds."

3 "Slag doesn't interfere and the fine spraying action and lack of arc-blow helps out greatly, too."

"I USE IT ON AC OR DC.

It's mainly a grand all-position AC electrode, but works fine with DC reverse polarity, too. It's easy to identify by this A.W.S. color marking—white coating and blue band."

Airco electrodes are made in a complete line for every welding job. Send for new Catalog 120.

Address Dept. MG Air Reduction, General Offices:
60 East 42nd St., New York 17, N. Y. In Texas:
Magnolia Airco Gas Products Company, General
Offices: Houston 1, Texas.

AIR REDUCTION
Offices in all Principal Cities

Weld with

AIRCO ELECTRODES FOR BETTER WELDS
AND EASIER WELDING



procedure, and the Slow Charging Panel. By means of the former, the operator can quickly and accurately determine the condition of a battery without removing it from the car. The Slow Charger Panel makes it possible to slow-charge 1 to 10 batteries during night hours when fast-charging business is negligible.

HARRISON THERMOSTATS

ARE RIGHT FOR THE JOB



Now is the time to check the cooling system on every car that comes in for service. Make sure the thermostat is in first-class working condition... for efficient engine performance... for maximum output from the heater.

No engine or heater can function properly unless the correct temperature is maintained by a dependable thermostat. Harrison thermostats hold temperatures within the range required for efficient operation. They enable you to give your customers the thermostat that is *engineered* for the job—*built* for long life.

The Harrison thermostat line will prove profitable to you in your service operations . . . build goodwill by increasing customer confidence.

HARRISON — A UNITED MOTORS LINE



Harrison thermostats, complete radiators, radiator cores and tank parts are distributed nationally through United Motors Service.

HARRISON

HARRISON RADIATOR DIVISION
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK
KEEP BUYING VICTORY BONDS

Pontiac Field Men Attending Courses

Pontiac Motor Division of General Motors, early in October, will have completed refresher courses in sales procedure and policy for its entire field personnel, D. U. Bathrick, general sales manager and originator of the re-training program, reported.

Pontiac, since June, has conducted courses for its field men ranging in length from three days to two weeks depending upon the group attending and the nature of its work. These

meetings will be attended by the zone managers, business management managers, service managers, car distributors and office managers, parts managers, service school instructors, and district managers—all key men in the division's vastly expanded sales plan.

Believed to be the first major manufacturer to subject the entire sales organization to a complete course in basic principles and future goals, Pontiac will have a nucleus of indoctrinated key men upon which to build its personnel expansion program.

The various programs and presentations were prepared by the central office department heads who also present their programs to the different groups. Mr. Bathrick called in Norman G. Helwig, who formerly had been zone manager at Pittsburgh, to head up and coordinate this entire activity.

Firm Name Changed

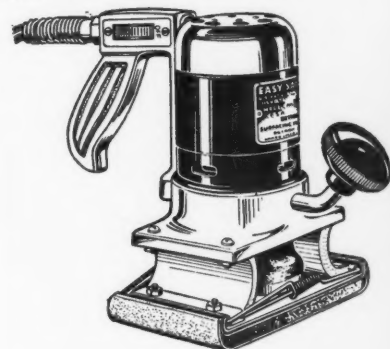
The name of Simplex Radio Corp., a wholly-owned subsidiary of Philco Corporation with extensive manufacturing facilities located in Sandusky, Ohio for the production of automobile radio sets, has been changed to Philco Corp. of Ohio, it was announced today by Charles F. Steinruck, Jr., secretary of the corporation.

Reciprocating Electric Sander Models Announced

The Detroit Surfacing Machine Co., 7433 W. Davison, Detroit 4, Mich., announce their new models XL50 and XL90 easy reciprocating electric sander.

New features include floating pistol-grip type handle, mounted on rubber, a more powerful motor, perfected balancing, slide type switch mounted on side of handle, and numerous other improvements.

It is claimed that the new units are practically vibrationless, cut much faster, and are exceedingly simple to operate.



In both models the company retains their original straightline, reciprocating action that mechanically duplicates the back-and-forth motion of hand block sanding, rubbing, or polishing. The short rapid stroke develops but little heat. It has proven desirable for refinishing applications on plastics, metal, wood, slats, leather or composition.

Detachable sanding pads are a feature of the Model XL90. A snap-action device permits instant attachment of the correct type of pad for the job, it is stated. To insure maximum efficiency on flat, curved, wet or dry work, pads are furnished of felt, rubber, and other materials of desired shape, size and degree of flexibility.

Write the Detroit Surfacing Machine Co., 7433 W. Davison, Detroit 4, Mich., for literature.

OUT OUR WAY



SOL-SPEEDI-DRI saves floors and man-power. With this white, granular, oil-thirsty absorbent on the job, your floor-maintenance crew can be shifted to other work . . . for one man can do all the work necessary with SOL-SPEEDI-DRI.

Just spread it around on the oil-soaked, grease-spotted floors of your garage, bus-terminal, filling-station, or show-room, and immediately, you've got safety under-foot . . . a Magic Carpet that cuts-down on slips and falls. Then after it has soaked-up the oil and grease, sweep it up with a stiff broom. Your floors are bright and clean . . . safe for walking . . . safe for working.

And, the beauty of it, SOL-SPEEDI-DRI does not require hard labor or expensive machines, for its use. It's a natural because it works while you work . . . in safety.

Pin your card to this advertisement and mail today for full details and a free generous sample of SOL-SPEEDI-DRI.

SUPPLIERS: East—Safety & Maintenance Co., Inc., New York 1, N. Y.
South, Midwest & West Coast—Waverly Petroleum Products Co., Philadelphia 6, Pa.

SOL-SPEEDI-DRI
OIL AND GREASE ABSORBENT



ON THE MOVE!

Hudson Program Goes Into "High" as First 1946 Models Come from Line

Many months of long-range planning went into *action* when the first new 1946 Hudsons rolled from Hudson's mile-long assembly line on August 30.

Second of all companies to start peacetime production, Hudson presents two lines for the coming year—a Super Series of fine cars at low price, and distinguished Commodore models—with a choice, in either series, of the famous Hudson Super-Six or Super-Eight motor.

Materials and workmanship were never finer than for 1946. Styling is new—outside and in. So are upholstery, hardware and appointments.

These cars will be sold by a rapidly growing distributor and dealer organization—

The first new 1946 Hudson Commodore Sedan was greeted at the end of the production line by President A. E. Barit and General Sales Manager C. H. Pratt

one of the largest and strongest in Hudson history.

Dealers will operate under a franchise which has always been fair, modern and profitable, and which has now been further liberalized. They have behind them a veteran factory organization, and plants which have in a single year produced more than 300,000 fine automobiles.

These are some of the facts on which we base the statement that Hudson will sell a substantially larger share of the total automobile market in the year ahead.



HUDSON

HUDSON MOTOR CAR COMPANY, DETROIT 14, MICH.



Goodyear Reports Production Increase

Passenger tire production in The Goodyear Tire & Rubber Co. plants soon will be 40 per cent higher than at the end of the Pacific war, by the first of the year will reach the company's pre-war peak, and shortly thereafter, owing to the substantially increased capacities installed to meet war demands, will soar to new record heights, E. J. Thomas, Goodyear president, reported.

This rapid increase in passenger tire production by Goodyear and other companies improves the prospects for removal of passenger tire rationing, Mr. Thomas believes.

Truck, bus and tractor tires now are being turned out by Goodyear at a rate higher than on V-J day when 50 per cent of these tires went for military purposes. Today practically all of this record output is going for civilian transportation and farm needs. Goodyear's farm tire production is now several times greater than its prewar capacity.



The Pennzoil sign in front of your place of business means, "Come in for good merchandise and top-notch service". It attracts people who take the best care of their cars, trucks and farm equipment—and who can afford to pay for it. These are your best customers. They are not price buyers but quality buyers.

There is nothing mysterious about Pennzoil's drawing power. It is the result of outstanding, dependable performance, continually and consistently promoted by advertising that reaches every worthwhile farmer in your county.

Why try to sell against this demand for Pennzoil when it is so profitable to take advantage of it? Get in touch with your local Pennzoil distributor for complete facts on the Pennzoil proposition. Call him or write direct to The Pennzoil Company, Oil City, Pennsylvania, for his name.

THE PENNZOIL COMPANY
EXECUTIVE OFFICES OIL CITY, PA.

Teleoptic Acquires "Fog King" and "Road King"

The Teleoptic Co., Racine, Wis., manufacturers of Teleoptic Directional signal lights, Sattler recorders and Tel-air component parts, announces that Teleoptic has purchased from Winzeler Mfg. & Tool Co. of Chicago its driving light division, makers of "Fog King" and "Road King" lights. Teleoptic has acquired all rights to these trade names as well as the inventory of lights and material.

In the future the "Fog King" and "Road King" lights will be manufactured at Teleoptic's Mound Ave. plant in Racine, both sealed beam and reflector types will be distributed to the automotive trade and a new improved sealed beam driving light will be added to the line.

Air Express Map

The Railway Express Agency has announced publication of an illustrated Air Express map of "Post-War Town." The map is printed in colors and shows the various uses for Air Express in any town or city. Also included in the "Post-War Town" map is a map showing the air express lines in the United States, Canada and connecting lines to Alaska, South America and Europe. Scales are also provided showing flying time in hours for east, west, north and southbound routes. A chart shows the flying times for distances of 200 to 3000 miles and the rates for these distances of 1 lb. to 50 lb. of air express.

Copies of the map may be obtained without cost from the Railway Express Agency, Inc., Dept. of Public Relations, 230 Park Ave., New York 17, N. Y.

Chicago Auto Exhibit To Open November

The Golden Jubilee of the American Automobile, to be celebrated in November by the Museum of Science and Industry at Chicago, is attracting wide attention on the part of manufacturers. Many of the foremost names in the industry have joined with the Museum in staging an exhibition that will trace the history and development of the automobile from its beginnings to the present day.

The Museum's Golden Jubilee program will open on November 2 and will be accentuated by a series of special events that will reach its peak in a re-enactment of the first automobile race on Thanksgiving Day November 22. While the re-enactment of the first race will mark the close of special activities incident to the Golden Jubilee, the exhibits will remain on display at the Museum until late winter.



FLEXIBILITY

ADEQUATELY ENGINEERED

For All Types of Automotive Vehicles

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QUALITY
PRODUCTS
DURABLE
DEPENDABLE

FLEX-O-TUBE HOSE ASSEMBLIES

used in

Gasoline, Oil, Grease and Vacuum Lines

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MICHIGAN

Bendix Sets Up Brake Sales-Engineering Group

Establishment of a sales and engineering group to develop, manufacture and market braking systems designed to meet the special needs of postwar tractors and other farm vehicles was announced here recently by Allan C. Chambers, director of automotive sales of the Bendix Products division of Bendix Aviation Corp.

The farm vehicle brake program is functioning under direction of Chambers and Bryan E. House, chief engineer of the division's automotive

brake section.

Numerous design improvements stemming from the corporation's 20-year background of experience in the brake field will offer to the farm vehicle industry braking designs comparable to those used in passenger cars and commercial trucks, Chambers said.

Cooperative engineering field tests, employing adaptations of mechanical, hydraulic and vacuum power braking systems developed by Bendix are now under way with manufacturers of farm vehicles, tractors and other agricultural and road-construction

machinery, House stated.

Other applications undergoing tests have demonstrated their contributions to more dependable braking of tractors in both forward and reverse directions of travel, more ease of brake operating at all speeds and reduction of weight made possible by compact new designs which also minimize maintenance and service, it was explained.

K-D Lamp Appoints District Sales Manager

A. E. Snyder, Vice President of the K-D Lamp Company, has announced the appointment of a new district sales manager for that company.

Charles Adams, with headquarters in Atlanta, will be in charge of K-D sales in Tennessee, Florida, Georgia, and the Carolinas. With the Lamp Division of Westinghouse since 1925, Mr. Adams has served as manager of the Southern lamp division.

New Rainmaster Stock Cabinet Announced

A new stock cabinet of New "Dead-locker" Model DL Anco Rainmaster windshield wiper arms and blades is announced by the Anderson Co., of Gary, Ind.

This all-metal stock-cabinet in three colors is designed to set on the counter or hang on the wall. The lid, with locking facilities provided, opens on balanced stock of the two extensible lengths of arms and the five lengths of blades, which provide full range replacements for all cars. Adapters required for installing the arm on some cars with electric wipers are contained in a convenient drawer.

This stock cabinet is fully packed with a balanced stock of arms, blades and adapters—ready for display when taken from its factory-sealed package. Also included in the package are sales and service manual, arm and blade specifications, wall charts, and sales helps.

Washer Equipment Booklet

Whiting Corp., Harvey, Ill., has just published a new booklet entitled, "Whiting Bus and Car Washers and Terminal Equipment." This publication clearly shows the operation, application and construction of Whiting's latest equipment which has been designed to eliminate tedious, expensive, hand-washing methods to meet the public demand for clean attractive vehicles.

Other terminal equipment such as electric turntables for buses, Whiting transfer tables, pit jacks and hand-operated motor lift dollies is also included. Write for Bulletin No. CW-C-403.



GOOD AS A HANDSHAKE!

Dealers are friends when you supply them with replacement parts that serve both the interest of their customers for better driving and the interest of their business for greater profits.

Let the Kem Complete Fuel Pump Line make you welcome with your dealers. Kem is a source from which they can get all they need in fuel pump replacement parts—Kem Fuel Pumps, Kem Factory Rebuilts and the Kem Fix-A-Pump Paks. Watch for the extra margins of casting, machining insulation and oversizes that mean plus service under heavy duty conditions—the Kem Registered Guarantee Way.

Send 25¢ for the new Kem Fuel Pump Repair Manual.

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★ **KOMET** Prefitted
KEM MANUFACTURING CO., INC.
601 West 26th Street, New York 1, N. Y.

Replace with **KEM**

HOW TO AVOID SELLING AC OIL FILTER ELEMENTS



1.

Wipe the dipstick on a rag—never on an AC Oil Test Pad. (Better yet, don't check the oil at all.)



2.

If you don't have a rag and are forced to use an AC Test Pad, be sure not to show the customer the smear on the Pad. Then he can't see whether his oil is dirty.



3.

If the customer does happen to see the dirty oil smear on the AC Test Pad, walk away smartly. Then he can't ask questions, and you won't be tempted to tell him how AC Oil Filter Elements will maintain his engine power by keeping ring slots open, retarding carbonizing and valve gumming, and cleaning up old oil.



BUT, if you want to sell—oil filters and elements, in increasing volume and with satisfaction for your customers, be an official AC Oil Filter Service Station—get a supply of AC Oil Test Pads and AC Elements and Filters. Use the Pads as dipstick wipers on every oil check—and show the dirty Pads to the customer. It's actually as easy as that! So, have your wholesaler's salesman register you as an AC Oil Filter Service Station—and get your supply of AC Oil Test Pads.

LET'S FINISH THE JOB — BUY VICTORY BONDS

SEND FOR AC SHOP MANUALS

Field Service Dept., AC Spark Plug Division, G. M. Corp.
910 Mott Foundation Building, Flint 3, Michigan

Gentlemen: Please send at once, no charge, the AC Shop

Manuals checked:

- | | |
|--|--|
| <input type="checkbox"/> How to Service Spark Plugs | <input type="checkbox"/> How to Service Fuel Pumps |
| <input type="checkbox"/> How to Service Spark Plug Cleaner | <input type="checkbox"/> How to Service Air Cleaners |
| <input type="checkbox"/> HOW TO SERVICE OIL FILTERS | <input type="checkbox"/> How to Service Speedometers |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | |

MA-10

NAME _____
FIRM _____
STREET ADDRESS _____
CITY _____ STATE _____

AC OIL FILTERS

Retires as Chevrolet Muncie Plant Manager

H. A. Leary, for the past seven years manager of the Chevrolet plant, Muncie, Ind., is retiring from active business life, effective Oct. 1st, according to an announcement made by Hugh Dean, Chevrolet general manufacturing manager. He will be succeeded by E. J. Bredeson, formerly assistant plant manager at Muncie.

Dean announced at the same time that J. L. Coyle, who since July, 1943, has been general superintendent of the Defense Plant Corp. plant at Anderson, Ind., operated by Chevrolet during the war for the production of

aviation engine parts, has been named plant superintendent at Muncie.

A native of Chicago, Leary has been with Chevrolet for 20 years.

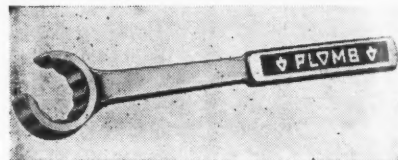
Bredeson has been with Chevrolet since 1931, when he was employed as a tool grinder in the Toledo, Ohio plant. He became foreman and later assistant master mechanic at Toledo, and went to Muncie as master mechanic in 1935.

Coyle has been with Chevrolet continuously since 1935, when he joined the organization. He worked first at the laboratory at the forge plant in Detroit. Prior to becoming general superintendent at Anderson, he was superintendent of the Chevrolet steel and aluminum plant at Muncie.

Flare Nut Wrench

A new flare nut wrench, for use on plastic pipe, tubing and soft metal fittings is announced by the Plomb Tool Co., 2209 Santa Fe Ave., Los Angeles 54, Calif.

The head is flat based on a modified 12-point design, with opening which allows access to fittings around tubing. These features, coupled with deep, thin walls, permit use in close places and small turning arcs. Possibility of damage to the fitting is re-



mote because the wrench has better contact with the nut and cannot slip and chew it.

The primary uses of the flare nut wrench are in the assembly and maintenance of all types of lines, including fluid, air, gas, etc. It has a wide variety of applications in aviation, automotive, air conditioning and refrigeration fields, as well as on such equipment as compressors and various pressure instruments.

Electric Auto-Lite Co. On Civilian Production

The facilities of The Electric Auto-Lite Co. have already been turned to civilian production, according to an announcement made by Royce G. Martin, president.

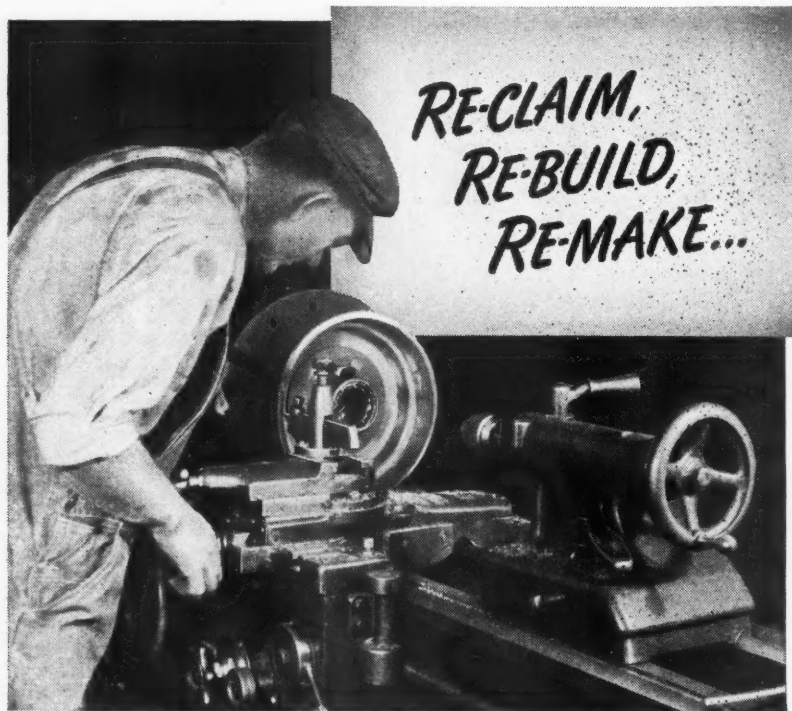
"Most of our government contracts," Mr. Martin said, "have been cancelled and civilian schedules put into production. Two weeks following V-J Day we were operating at about 70 per cent normal strength. Re-hiring of those laid off through government cancellations started early in September and is continuing as materials are made available and new schedules are drawn up.

"All of Auto-Lite former customers," Mr. Martin concluded, "are now on the books and many new ones are being added daily. The general prospects are exceedingly bright, especially for heavy fall and winter schedules."

New Vapor Injector

Aer O Gas is a motor energizer for use in trucks and passenger cars to give greater power and mileage, improved starting and longer motor life. This new item is being distributed nationally by the Clay Estes Co., 1355 Market St., San Francisco 3, Calif.

The full name of the item is Aer O Gas Vapor Injector, and is designed to retail for from \$15 to \$20. It is claimed by the manufacturer to stop motor ping and knock and lengthen the life of the motor.



HOW TO RUN A LATHE
A 128-page book on lathe operation and care. Size 5 1/2" x 8". Send 25c in stamps for copy.



WITH A SOUTH BEND LATHE

Re-claim—Re-build—Re-make is today's service slogan. Worn or broken parts that formerly went to the scrap heap must be salvaged. Versatile South Bend Precision Lathes are now more indispensable than ever in the modern service shop. Often new parts can be made from scrap. Time can be saved, too, by making repair parts "on the spot"—instead of waiting for slow deliveries. South Bend Lathes are made in five sizes, 9" to 16" swings. Write for catalog, stating size of lathe in which you are interested.

SOUTH BEND LATHE WORKS

Lathe Builders For 39 Years
450 E. MADISON STREET • SOUTH BEND 22, INDIANA

Only *Thor* can give you unbiased advice on

selecting the type  of power tools
that are best for your shop  . . .

because only *Thor* makes BOTH Electric 
and Pneumatic  portable tools especially
designed for Automotive Shop  Service!

Whatever your needs, your Thor jobber can supply the *right* electric OR pneumatic drill, grinder, sander, polisher, hole-saw and wire brush that will save you time and money.

If you can do most of your jobs in a relatively concentrated area and have an air compressor as small as 3 H.P., you can use Thor *Multi-Matic* Tools.

If you haven't much air capacity and must use tools all over the shop, you can benefit from the light weight, compact power and portability of Thor *Electric* tools.

INDEPENDENT PNEUMATIC TOOL COMPANY

600 W. Jackson Boulevard, Chicago 6, Illinois

Birmingham	Boston	Buffalo	Cleveland	Detroit	Los Angeles	Milwaukee	New York	Philadelphia
Pittsburgh	St. Louis	Salt Lake City	San Francisco	Toronto, Canada	London, England			

Thor PORTABLE POWER
TOOLS

PNEUMATIC TOOLS • UNIVERSAL AND HIGH FREQUENCY ELECTRIC TOOLS • MINING AND CONTRACTORS TOOLS

November Date Set For West Coast Fords

Production of 1946 Ford passenger cars on the West Coast will start in November, A. S. Hatch, West Coast Regional Manager for the Ford Motor Company announced recently with the disclosure that the Army Air Forces was releasing the Long Beach plant as an Army Depot.

Reconversion of both the Long Beach and Richmond plants of the Company will start immediately, Hatch said. Release of the Long Beach plant, he explained, will make

it possible to return quantities of dealer service stock from Richmond and make room here for earlier car production. Release of the local plant, used by the Army for modification and shipping of Army vehicles, is expected this fall.

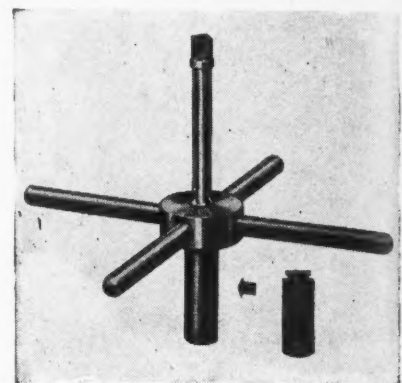
Hatch said the Long Beach plant will employ approximately 1500 workers by the end of the year and 2000 employees will be needed when the Richmond plant gets into production.

In 1941, the last normal peacetime production year, Long Beach built 28,353 vehicles, while Richmond turned out 45,844 cars, trucks and commercial units in that year.

New High-Speed Ball-Bearing Wrench

A new high-speed ball-bearing wrench adapted for tire, brake and motor work is now being manufactured by the Patrick McDermott Co., 415 West Pico Blvd., Los Angeles 15, Calif.

According to the manufacturer the Gyro Speed Wrench reduces by 30% to 40% the spinning time (either on or off) for wheel and rim retaining nuts, stud screws and motor bolts and nuts.



The feature is the ball-bearing handle which allows the four lever bars to spin, developing the inertia force or fly wheel effect that speeds the job. It is claimed that threaded parts are spun to set position in a flash, requiring only a single twist to tighten to the desired tension.

Immediately available in $\frac{3}{8}$ in. drive— $\frac{1}{2}$ in. drive and the $\frac{1}{2}$ in. drive (heavy-duty) for tire and brake work. A combination double-end reversible $\frac{3}{8}$ in. and 13/16 in. socket is also available as a handy attachment that fits most every passenger car and light truck rim and wheel retaining nut or stud screw.

Production Climbing At Jacobs Plant

Plants of the F. L. Jacobs Co. are now in production on all parts and accessories for the automobile industry which were made prior to the war, according to Rex C. Jacobs, president. "Our output while still low in comparison with prewar or with plant capacity nevertheless is gaining in volume each day," said Mr. Jacobs. Two of the plants are turning out the following products:

Parts Manufacturing Co., the Jacobs subsidiary at Traverse City, Mich., is now running on visors, visor frames, glass channels, scuff plates, glove compartment panels, (electric) lifts for convertible cars to raise and lower the tops, and trim moldings.

At the main Jacobs plants in Detroit, production consists of seat frames, slat irons for convertible tops, bus doors and parts, and automatic screw machine parts.

SLUDGE and GUM

DESTROY ENGINES!

TO CLEAN OUT THE ENGINE

Loosite

For Trucks, Tractors, Marine Diesels

TO KEEP IT CLEAN

Siloo

For Trucks, Tractors, Marine Diesels

Technicians call them petroleum residues but to the car owner, they're just sludge and gum. He knows that they cut down on his power and shorten the life of his engine. He knows because his car manufacturer is constantly reminding him of it. Hand in hand with this advice goes Petroleum Solvents advertising in twenty national magazines—advertising that tells him **LOOSITE-SILOO** is the speedy, safe, sure, economical treatment to re-

move sludge and gum and save his motor.

All you have to do is display the sign and mention **LOOSITE-SILOO**. Your trade has been pre-sold. They want this engine protection and guarantee of longer life. If you're not a **LOOSITE-SILOO** dealer, ask your jobber about them or write to us.

For sale by leading jobbers everywhere, and the White Motor Company branches and distributors.

PETROLEUM SOLVENTS CORP., 331 Madison Avenue, New York 17, N. Y.

Here it is...

Ditzler's famous QDE (now DQE) enamel is again available—pre-war quality and better—Famous for easy workability, quick setting, high lustre, excellent adhesion, and outstanding durability. Ditzler Color Division, Pittsburgh Plate Glass Company, 8000 W. Chicago Ave., Detroit 4, Michigan.



SAE Technical Board To Supervise Activities

Appointment of an SAE Technical Board of 23 high-ranking automotive engineers to coordinate and supervise all technical committee activities of the Society of Automotive Engineers has been announced by SAE President J. M. Crawford.

L. R. Buckendale, engineering vice-president of The Timken-Detroit Axle Co., Detroit, Mich., has been named chairman of the Board, which already has begun the work of converting the SAE War Engineering Program to peacetime service of in-

dustry of government. Additionally, the Board will direct the development of a new cooperative engineering program designed to implement the request of Lt. Gen. Levin H. Campbell, U. S. Army Chief of Ordnance, for broadening and intensifying the wartime "functional teamwork" of SAE and Ordnance engineers to keep American motorized military equipment superior to that of potential enemies.

Appointment to the Board, President Crawford explained, is recognized as indicating prestige and accomplishment in various branches of automotive engineering. "Membership in the Board," he added, "is perhaps

as great an honor as is within the power of the Society to confer."

First meeting of the Board, recently held, was concerned with plans for gradual transformation of the SAE War Engineering Program, involving more than 1,400 essential engineering projects and the cooperation of several thousand SAE members, into a coordinated peacetime program of technical committee activities which will render engineering advisory service to industry and government.

Hickok Chargicator Model Announced

The newly developed Hickok Chargicator indicates electrically the equivalent gravity of any lead-acid storage battery, regardless of size or voltage. Places no load on the battery and at the time of reading the battery need not be disturbed. It is designed to permit supersensitive measurements, whether permanently connected to the battery, it is claimed, or used as a portable tester, the Chargicator gives instantaneous measurement of battery condition. It shows



SURE FIRE

CAMEL hot vulcanizing patches are sure-fire! As soon as the wick is lighted, the heat is steady, and quickly reaches the even constant temperature which is sustained while the patch is properly curing (shown diagrammatically from "A" to "B" above). This concentrated heat . . . no skyrocket burning . . . bonds the patch and tube perfectly whether a synthetic or natural rubber tube. The patched area will give satisfactory service indefinitely.

CAMEL heat elements are the results of constant research in our laboratory which is constantly at work. There never has been a shortage of quality in CAMEL Patches. They have always been guaranteed without reservation. The familiar trade-mark is a guide to top quality. The CAMEL line is accepted the world over by both military and civilian users as "sure fire."



Look for the familiar CAMEL package anywhere!

CAMEL Patches

H. B. Egan Manufacturing Company, Muskogee, Oklahoma
In Canada: GEORGE M. WATSON & CO., Ltd. Toronto, 2

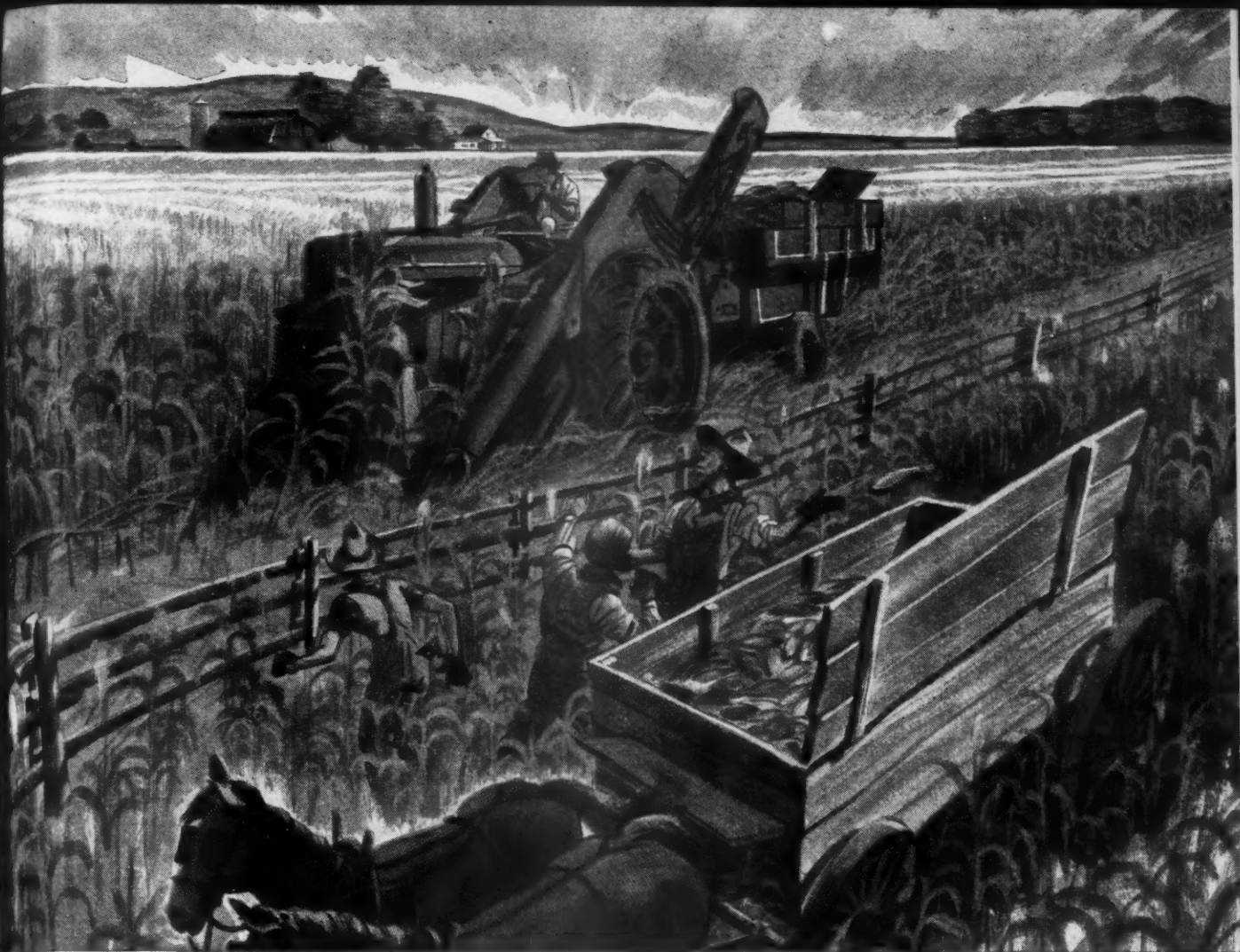
Other CAMEL Products available in the complete line are: Quick Cure Gum, Tube Repair Kits, Garage-size Kits, Vulcanizing Cement, Rubber Cement, Tire Patch Cement, Vulcanizing Kits, and Valve Stem Heat Units.



what charging rate to use, either for trickle charging or for an efficient, safe, high-rate charge. It indicates the percentage of charge and charging danger and warns instantly of destructive overcharging.

Weak or defective cells are readily and accurately spotted before actual failure occurs and it may also be used as a check against future failure by using it in conjunction with a load test. High precision calibration on a big four-color scale, easy-to-read dial, eliminates guesswork.

All models are sealed within molded acid-proof bakelite cases and are not affected by weather or temperature. Manufactured by the Hickok Electrical Instrument Co., 10564 Dupont Ave., Cleveland 8, Ohio.



THERE'S BEEN A BIG CHANGE

★ Just try to persuade the owner of a modern mechanical corn picker to go back to the old hand-picking methods.

And try to induce an operator of heavy-duty equipment to return to ordinary tapered roller bearings, once he has used Tyson...

Yes, there's been tremendous improvement in bear-

ings. Tyson found the way to add 30% more load-carrying rollers around the raceway. Result: (1) Extra capacity, (2) maximum rigidity, (3) longer life. Most users report double the life of ordinary bearings.

Tyson "All-Rolls" Bearings are interchangeable with other tapered roller bearings. Part numbers and prices are the same. Next time, use Tyson.



TYSON BEARING CORPORATION • MASSILLON, OHIO

COUNT THE ROLLS • THE ROLLS COUNT

Tyson



THE LAST WORD IN ANTI-FRICTIONEERING

G.M. Technical Center Staff Members Named

Nucleus of a general administrative staff for the projected General Motors' Technical Center has been announced by C. L. McCuen, vice president in charge of GM Central Engineering Staff. Heading the list of appointments is W. J. Davidson who has been associated with the project since its inception and who will be administrative engineer aided by Col. A. J. Schamehorn as assistant administrative engineer.

Davidson and Schamehorn will continue as members of Mr. McCuen's

staff and will have supervision over the construction, equipment and maintenance of the Technical Center. They will make their headquarters at the new Center when it is completed.

Mr. McCuen also announced the appointment of Lyle A. Walsh as manager of operations Advanced Engineering section.

The direction of the Advanced Engineering section will be carried on under Mr. McCuen when the Center is completed, while the operation of buildings housing the Research Laboratories, process development and styling section will be the responsibility, respectively, of vice presidents

C. F. Kettering, B. D. Kunkle and H. J. Earl.

Mr. Davidson joined General Motors in 1914 as junior engineer with Cadillac Motor Car Division.

In 1941 he was named manager of automotive ordnance and early in 1942 became director of Engineering Service for War Products.

Col. Schamehorn came to General Motors in 1916 with Hyatt Bearing Division. In 1942, Col. Schamehorn moved to the GM Washington office and later that year entered the Army. He returned to GM in July following his honorable discharge.

Mr. Walsh entered the student group at Oldsmobile Division in 1926 and in 1937 was made assistant to the vice president in charge of engineering at GM Central Office.

TO WHOM

Can't YOU SELL

MOTOR TUNE-UP

SERVICE Now?

An ALLEN TESTER

should be your first postwar shop purchase.

MODEL E-406, \$287.50
Price Slightly Higher in Far West



With practically all of us driving '41s or older, ask any car owner if he is interested in IMPROVED performance. Sure he is! — and willing to pay for it, too! Yes, everywhere in the United States there is RIGHT NOW a whole of a big and profitable market for scientific tune-up service.

If you have an Allen E-400 Series, you can quickly and accurately test the battery, starter, compression, distributor, condenser, plugs, cables, generator, ammeter, lights and wiring, fuel pump, vacuum, etc. Only two detachable leads required for 95% of all operations. Anyone can learn the entire "know how" in a few hours.

Place your order NOW for an Allen E-400 Series, and make your shop pay REAL dividends. The nearest Allen distributor can furnish complete information — or write us at Kalamazoo!

WE ALSO MAKE

1. Battery Chargers—(Fast and Wall Types)
2. Gauges—(Compression and Vacuum)
3. Growlers—(Armature)
4. Synchrographs—(Distributor Testers)
5. Test Stands—(Generator, Starter and Magneto)
6. Tune-up Testers—(Coil, Condenser, Volt-Amp, Tachometer, Contact Angle, and Combustion Analyzer)
7. Timing Lights and Coil Testers
8. Puller Presses and Radiator Test Plugs
9. Undercutters and Magnetizers
10. Welders—(Arc and Spot)

ALLEN Equipment

ALLEN ELECTRIC & EQUIPMENT CO.
KALAMAZOO, MICH.

Siphon-proof Gas Tank Cap Announced

The Super Gas Tank Cap—keyless, and stated to be theft proof, siphon proof, loss proof and fool proof—is now announced by Crandall Mfg. Co., 1512 West Slauson, Los Angeles 44, Calif. The new and improved gas cap is designed in such a manner that one universal model fits all styles and sizes of filler pipes.

A modern replacement cap, with chrome-plated spring hinged cover and ball catch, the Super requires no special tools to install; once in place, it is fitted tightly—permanently and cannot be removed. Made with a swaged neck of correct dimensions to permit rapid filling, the cap body has cast-in bottom baffles to prevent siphoning of gasoline from the tank. The design of the baffles eliminates bubbling and spilling as the tank is filled. A "U"-shaped steel fork, secured to the bottom of the fixture, extends up the sides and engages the rim of the filler pipe for absolute locking.

Use of the cap prevents theft of gas as well as of the cap itself.

Appointed Ad Manager

American Brake Shoe Co., Kellogg Division, Rochester, N. Y., announces the appointment of Charles S. Sliter as advertising manager with headquarters at the Kellogg Division plant in Rochester. He has served in various sales capacities in the automotive equipment field for twenty years. Sliter became affiliated with Kellogg Division in 1940 as sales representative for New York, West Virginia and Western Pennsylvania. During the war he became purchasing agent and just prior to the end of the war resumed his position as Sales Representative. In addition to his advertising duties, Sliter will continue to direct sales activities in his territory.



REPLACE WORN LUBE EQUIPMENT

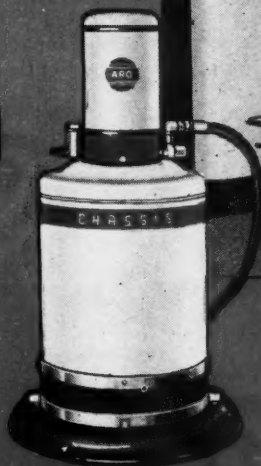
NOW!

Worn-out lube equipment wastes time, labor and money!

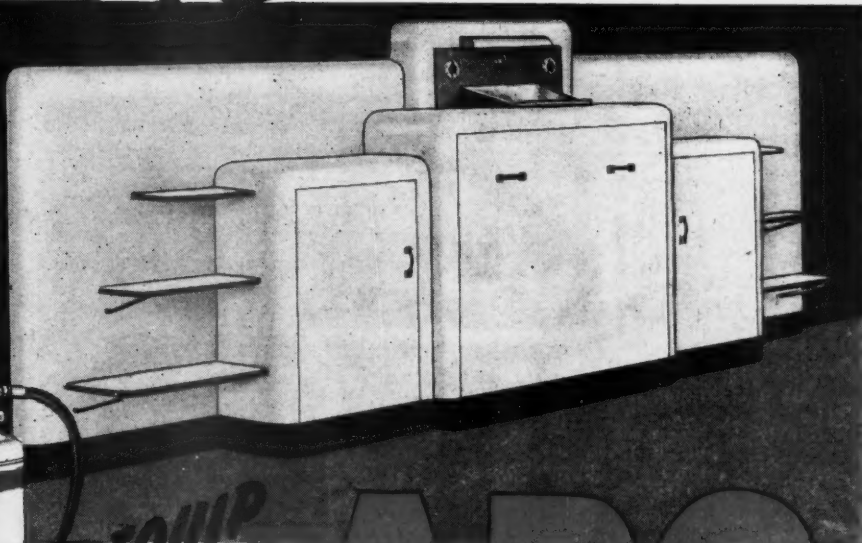
Get rid of this wartime handicap *now*—replace with new, efficient ARO Lube Equipment! No priority needed—the full line of attractive cabinet models now available to help you speed up service, do a better job and build goodwill for future business. Equip *now* with ARO! Increase your capacity to handle bigger lube volume with ARO-engineered efficiency, speed and dependability. See your Aro Jobber. The Aro Equipment Corporation, Bryan, Ohio.



Model 50-DX
Chassis Lubricator



Model 125
Junior Size
Chassis Lubricator



EQUIP
NOW
WITH-

ARO

LUBRICATING EQUIPMENT

New Light Reflector

A light reflector of entirely different design is announced by the General Detroit Corp., and the General Pacific Corp. It eliminates the "dark spot" produced by conventional reflectors. Called the Diamond Facet Reflector, it is made for use in flashlights, searchlights, lanterns, spotlights, and floodlights of all sizes and types. A special flashlight called "Floodbeam," which incorporates the new reflector, is also being marketed by the two corporations.

The Diamond Facet Reflector's design makes use of the fact that

nothing reflects light like a diamond. This reflector has a surface broken in to multiple diamond shapes to reflect all of the light.

Further information on "Floodbeam" flashlights and Diamond Facet Reflectors may be secured by writing the General Detroit Corp., 2270 East Jefferson Ave., Detroit 7, Mich., or the General Pacific Corp., 1800 South Hooper Street, Los Angeles 21, Calif.

New "Feathered Shim"

The Blaisdell Mfg. Co., Long Beach 4, Calif., has just announced a new "Feathered Shim" for use with insert

type main and connecting rod bearings.

The shims are made up of several layers of .0005 shim stock cemented together in the center. Each layer is shorter than the preceding layer. This produces a completed shim which is thick in the center and thin on the ends. Any one or more of the layers may be peeled from the main body of the shim.

Monroe Auto Equipment Expands Facilities

William D. McIntyre, vice-president and treasurer of the Monroe Auto Equipment Co., today announced the purchase of a large new plant in Hillsdale, Mich., and expansion of the company's main factory, and another recently acquired plant in Monroe.

These three steps in the company's large scale peacetime program will increase manufacturing facilities to a total of 454,500 square feet or more than 10 acres. The entire expansion program involves an expenditure of approximately \$1,500,000 for plants and equipment, Mr. McIntyre said.

The new Hillsdale plant represents the largest single step thus far in the Monroe company's program. It is a modern, brick and steel, mill-type building, built in 1938 and containing some 200,000 square feet of floor space. Purchased from the Hillsdale Manufacturing Company for an undisclosed sum, the plant will be in full operation before the end of the year.

Work is progressing rapidly, Mr. McIntyre reported, on the expansion of the main plant in Monroe. An addition now being built on that plant will be known as plant No. 5, and both factories will be utilized for the manufacture of shock absorbers and of tubing and other products formerly purchased from outside sources.

The third phase of Mr. McIntyre's announcement involves the plant formerly occupied by the Stoner-Maurer Company in Monroe, now known as Monroe plant No. 4 and including 70,000 square feet of floor space. Contracts amounting to \$165,000 have been let for a new building, which will put this entire plant under one roof.

Ford Plans West Coast Branch Plant

Ford Motor Co. has announced plans to build an assembly plant for Lincoln and Mercury cars in Los Angeles. The plant is one of four figuring in the Ford expansion program which will bring the number of branch plants to 19. Previously announced were plans for plants at St. Louis, Mo., and Atlanta, Ga. It is understood that a fourth assembly plant will be located on the East Coast, probably near New York.

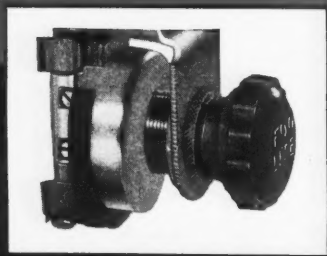
Popular and Timely SWITCHES



We have a complete line of Quality Built Heater Switches, Fog and Road Light Switches, Push Pull and Accessory Switches available now for IMMEDIATE DELIVERY.

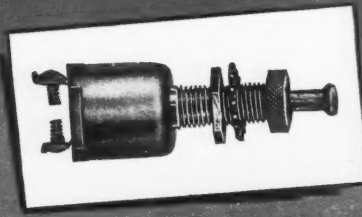
HEATER SWITCH

Rotary Rheostat Type. Pleasing design with illuminated Plastic Operating Knob. Complete with removable bracket. Tested and proved for dependable performance.



FOG LIGHT SWITCH

Heavy duty, Quality built. Illuminated operating knob. 20 Amp. Fuse. Finest construction throughout of quality materials for long life and service.



PUSH PULL SWITCH

Thru the dash push pull type. Metal body and operating knob. Heavy duty construction with positive contact.

Send For Catalog

Catalog sheet illustrating and describing our complete line of switches will be sent upon request.

LYNN PRODUCTS COMPANY, Inc.
319 EAST ONTARIO STREET CHICAGO 11, ILL.

PLEASE ORDER YOUR WEED CHAINS NOW



**WEED AMERICAN
BAR-REINFORCED**
Best Value in Tire Chains

Public Prefers Weed Chains

● Dealers and service stations may not realize that last winter's abnormal conditions were widespread and wiped out the supplies of **WEED CHAINS** in all sections. That's why it is so important to tell your wholesaler now, right away, how many **WEED CHAINS** and what sizes you need.

Let your customers know that you handle the **WEED CHAIN** line. It's a fine advertisement for your business. And if you can possibly swing it this fall, offer to repair your customers' used tire chains. You can make money doing this work quickly and easily with these **WEED CHAIN** repair tools:

- **Weed Sturdy Pliers**—for passenger car chains
- **Weed 711 Pliers**—for passenger car, truck and bus chains
- **Weed Chain Repair Tools** ● **Weed Cross Chains**



ACCO

York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.



**AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE**

In Business for Your Safety

Direct Fuel Injection Systems Now in Service

For every broad advance in transportation equipment operated by internal combustion engines, there has been corresponding progress in the engineering and manufacture of fuel feed systems, since they are basic elements in the source of motive power.

Bendix-Stromberg engineers have now introduced for the first aircraft "Direct Fuel Injection" system with fully automatic "Master Control" of fuel and air measurement.

Brought to a high peak of efficiency after more than 13 years of research, the Stromberg direct fuel injection system combines for the first time on a large aircraft engine, automatic control of the total fuel quantity, along with high pressure injection of this fuel into the different cylinders in equally divided instantaneous charges of sprays.

This system incorporates revolutionary developments in fuel metering and supply systems. These, together with recent refinements in high octane gasoline, have now made it possible for our bombers to fly at

ceilings over 30,000 ft., at speeds over 300 miles per hour, and at the same time, have greatly increased the reliability and operating life of the engines.

Since the early 1930's, Bendix-Stromberg engineers had been working on direct fuel injection principles in conjunction with other pioneering research in carburetion and fuel metering in general. Much of this pioneer research was already past the experimental stage before the start of World War II.

Early in 1942, Bendix Aviation Corporation, in view of its all-round background of experience in the fuel equipment field, was given the urgent responsibility for developing and producing a fuel system to help step up the full potential efficiency and power of the Superfortresses.

To appreciate the problems involved in meeting that task, the characteristics of fuel system developments which led up to modern progress in the field should be basically understood.

William Maybeck in Bavaria in 1888 and Charles E. Duryea in America in 1902, developed the float controlled spray carburetor for gasoline automobiles; and this general type of carburetor has been used on our motor cars ever since. In parallel, Dr. Diesel, in 1902, proposed an engine in which heavy fuel was injected into the cylinders at high pressure: but he used such high compression that the air in the cylinder was hot enough to ignite the fuel as it entered.

(Continued on page 116)

VALVOLINE . . . THE ORIGINAL PENNSYLVANIA OIL



He learned about Valvoline in the Pacific jungles

Yes . . . he learned the hard way—flying a bomber over the Pacific jungles where good lubrication was a matter of life or death.

He's home now, but he'll never forget how Valvoline Motor Oil saw him through. And he knows Valvoline will see his old car through the

crisis, too—that it will add many precious miles to the life of the motor—keep it cool, clean—sweet-running.

Now that it's time to change over to winter grade oil, it's a good time to get customers to change over to Valvoline—the oil that's so good it can be unconditionally guaranteed.

VALVOLINE

MOTOR OIL

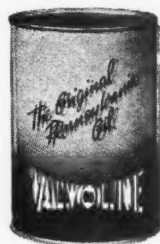
COSTS MORE TO MAKE — COSTS LESS TO USE

Unconditionally Guaranteed

VALVOLINE OIL COMPANY

431 Main Street, Dept. 12-J, Cincinnati 2, Ohio

New York - Atlanta - Pittsburgh - Chicago - Detroit - Los Angeles - Vancouver, B. C. - Washington, D. C.
Refinery at Butler, Pa.



WITH

MASTER RECAMS

MASTER RECAMS are individually designed for all late model cars; easily installed without removing pistons. The profitable way to Stop Piston Slap, Oil Pumping and Motor Noise.



50¢ EACH

REGULAR DISCOUNTS TO JOBBERS AND DEALERS

WHERRY ENGINEERING COMPANY
3227-29 Morganford Rd., ST. LOUIS 16, MO.

RESTORE THAT GENTLE
"Delco Ride"



To keep shock absorbers at peak efficiency, refill with reliable Delco Shock Absorber Fluid when fresh fluid is required.

DELCO HYDRAULIC SHOCK ABSORBERS

Delco Products Division, General Motors Corporation, Dayton, Ohio



DELCO SHOCK ABSORBERS
 A UNITED MOTORS LINE

Delco original-equipment service parts and products are sold through independent distributors served by 20 United Motors warehouses.

Delco hydraulic shock absorbers help smooth the ride, reduce tire wear and provide better "controllability" on leading makes of cars in every price range. That's an important job, and to do it right, they must be kept in good condition.

You can build customer satisfaction and goodwill by checking the shock absorbers on every car that comes in for repairs or adjustments. Restore the smooth "Delco Ride" . . . help keep America's "old" cars safe and comfortable.

The Delco Shock Absorber Exchange Plan will enable you to replace shocks damaged beyond repair with new Delcos. A liberal exchange plan makes the cost reasonable to your customers, and each new Delco carries the original-equipment guarantee.

Your United Motors distributor will furnish you with full details concerning the Delco Shock Absorber Exchange Plan. Put it to work for you today.

BUY MORE WAR BONDS

HALLOWELL

FOREMAN'S DESK OF STEEL KEEPS RECORDS UNDER LOCK AND KEY

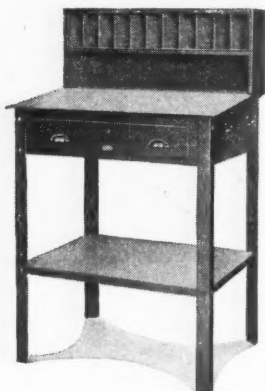


Fig. 1746

While you're servicing that car, you can be sure your important notes and papers are safe—in this "Hallowell" Foreman's Desk of Steel. Handy and efficient every minute of the day, the appearance of this desk will help to impress your customers with a sense of security, and that you "know your stuff." And, its low cost will impress you—plus the fact that it stands up under years of hard wear.

HALLOWELL



Fig. 1249

Be comfortable on a "Hallowell" as you write up the day's records or receipts—or jot down that order! "Hallowell" Steel Stools are welded, wobble-proof and of sturdy construction for long-time wear. And that streamlined posture design insures freedom from fatigue. Various styles available. Write for our Catalog.



STANDARD PRESSED STEEL CO.

JENKINTOWN, PA.
BOX 556

Branches: Boston, Chicago,
Indianapolis, St. Louis, San Francisco
OVER 40 YEARS IN BUSINESS



(Continued from page 114)

tered, so that no ignition spark was necessary. Because high compression had to be maintained he was unable to throttle the air charge for light loads, consequently the diesel engine never has had the flexibility and wide range of power necessary for passenger car and airplane use.

Countless improvements have been made upon these basic principles, as introduced in early automobiles and aircraft.

Concurrently, another and radically new solution of fuel-air control problems came in 1936, when Bendix-Stromberg engineers, produced the Stromberg "Injection Carburetor" for aircraft. This device combined the best features of previous carburetion, worthy features of direct fuel injection, and many original improvements revolutionary in their approach. In the "Injection Carburetor" the fuel was no longer sucked into the carburetor where its refrigeration could cause "carburetor ice." Instead, the fuel was discharged under several pounds pressure as a continuous spray into the engine supercharger.

Another important new feature of the Stromberg Injection Carburetor was a completely automatic mixture control unit, a "weather-wise device" which is self-responsive to changes in temperature, air pressure and altitude. Thus, this carburetor for the first time metered an explosive mixture of fuel and air automatically and accurately at all engine speeds, independent of altitude, temperature, propeller pitch, or throttle position. These carburetors were quickly and

(Continued on page 118)

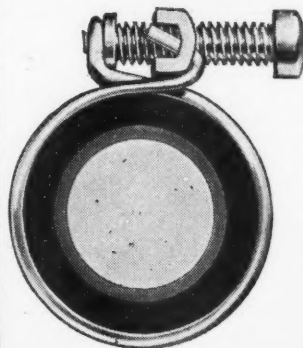
FOR WARTIME LUBRICATION

- ... YOU NEED
AND CAN STILL GET
- ★ **DOOR-EASE**
STAINLESS STICK LUBRICANT
DRIPLESS OIL
- ★ **RÜ GLYDE**
RUBBER LUBRICANT
from leading Jobbers

AMERICAN GREASE STICK CO.
MUSKOGEE, MICHIGAN

New!

A POWERFUL CLAMP with 360° of UNIFORM CLAMPING POWER

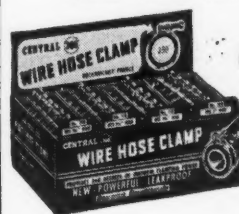


CENTRAL "360"

WIRE HOSE CLAMP

No other preformed clamp equals the "360" for power, efficiency or ease of application. It is the only clamp which provides unlimited uniform clamping power in a perfect circle over the entire circumference of the hose. It is absolutely vibration-proof...tightens instantly...eliminates any possibility of leakage...has almost unlimited take-up, even on synthetic hose...guaranteed unconditionally...Costs no more than ordinary clamps!

"360" WIRE HOSE CLAMPS TELL THEIR OWN STORY WITH THESE



Self selling
Colorful
DISPLAY
CARTONS
FOR QUICK, EASY
MERCHANDISING
Let these "Silent Salesmen" sell clamps for you.

They include all needed radiator hose sizes.

Send Today for Free
SAMPLE & BULLETIN No. 102

CENTRAL EQUIPMENT CO.
900 SO. WABASH AVE., CHICAGO 6, ILL.

YOUR FIRST LOOK AT RESISTOFLEX...



TELLS YOU BOTH THE THINGS YOU WANT TO KNOW*

- *1. THE DISTINCTIVE COLOR of Resistoflex hose reflects its outstanding quality. It tells you that the tube is compar—that the hose will not rot, clog, leak or break!
- *2. THE PLASTIC SLEEVE tells you where to use the hose assembly. Its introduction by Resistoflex marks the first time that permanent, quick identification of automotive hose assemblies has been achieved.



ORIGINAL FACTORY EQUIPMENT ON VEHICLES, VESSELS AND AIRCRAFT

RESISTOFLEX

Trade-Mark Reg. in U. S. & Can. Pat. Off.

Resistoflex Corporation



Belleville 9, New Jersey

BETTER WORKMEN
ask for the
BEST BLADE
and that's the




STAR
HACK SAW BLADE

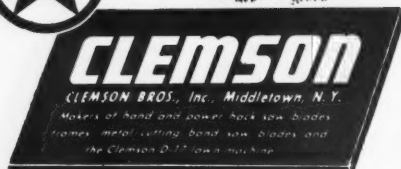
A master tool for industrial workmen—plant electricians, plumbers, maintenance men, garage mechanics, and even for the handyman householder.

The Star "Moly" High-Speed Steel blade is recommended for jobs where speed and accuracy must be combined. The Star Unbreakable Special Flexible blade is ideal for all-around cutting where toughness and a certain flexibility are important.

METAL CUTTING

Get your copy of this pocket-size booklet on Metal Cutting. You will appreciate the practical suggestions on the selection, use, and care of hack saw blades.

*T. M. Reg. —
Blades bearing
the name
"MOLY" are
made only by
Clemson Bros.,
Inc., and affili-
ated companies.



**Both are
Standard**



Write for literature on
the Eis Complete Line of
Brake Parts and Tools.



JUST as Eis Catalogs are the recognized standard for reference in the trade, so Eis Brake Parts are recognized as standard for replacement.

Seasoned brake mechanics everywhere know that Eis Brake Parts are made to highest precision standards, from the best materials—absolute assurance of dependability and lasting service on any type of replacement job.

EIS MANUFACTURING CO., Middletown, Conn.

Fuel Injection

(Continued from page 116)

widely adopted and today they equip the great majority of Allied fighters and bombers.

In 1940, nearly two years before Pearl Harbor, the Stromberg engineers applied the injection carburetor as a "Master Control" and coupled it in a single system with an improved Direct Fuel Injection System. This was successfully tested in 1942 on a 9 cylinder R-1820 Wright engine in a Navy SBC-4 Scout Bomber.

Finally, as a result of this evolution, and with a broad background of injection carburetor practice on the majority of the Allied aircraft, this combination of automatic Master Control and Direct Injection is in use on the latest B-29 Superfortresses. These new Stromberg fuel systems after several years of preliminary test, passed their official flight test in February, 1944, and are now in service on the latest high altitude models of the Superfortresses.

Janesville Plant Manager Named

Appointment of Robert W. Podlesak as plant manager of Chevrolet-Janesville has been announced by M. E. Coyle, Chevrolet general manager

and vice president of the General Motors Corp.

Podlesak was formerly acting general manager of the Oldsmobile plant at Janesville (Wisc.).

A MUFFLER IS MORE THAN A SILENCER



GUARD CUSTOMERS AGAINST CARBON MONOXIDE

MERIT MUFFLERS

BASCA MANUFACTURING COMPANY, INC.
Indianapolis 1, Indiana
MUFFLERS • EXHAUST PIPES • TAIL PIPES

WORLD GENUINE WELLS Ignition WIDE

USE PROVED IGNITION PARTS

QUALITY TELLS DEMAND WELLS

WELLS MFG. CORPORATION FOND DU LAC, WIS.

DON'T SELL ANTI-FREEZE!

UNTIL YOU FIRST SERVICE THE COOLING SYSTEM

Don't be satisfied just to pour in Anti-freeze... make extra profit by cleaning out rust and scale, and stopping cooling system leaks

USE THESE MATCHED
COOLING SYSTEM
CHEMICALS



..... THEN FILL
WITH DEPENDABLE
CSC ANTI-FREEZE



Ask your jobber about the CSC line

Specialties Division
COMMERCIAL SOLVENTS
Corporation

17 East 42nd Street, New York 17, N. Y.

THE LIFE STORY OF A FAN BELT



1. *First* IT STRETCHES



2. *Then* IT SLIPS



3. *Then*
IT WEARS



4. *Then* IT FAILS

Thermoid THERMODIZED *Pre-Stretched* **FAN BELTS**



Get the greater sales and greater profits made possible by the Thermoid Fan Belt Program and the Thermoid Sales Reward Premium Plan. Ask your jobber, or write to THERMOID COMPANY, TRENTON, NEW JERSEY.

BUT..



A Thermoid Fan Belt was removed from a Buick, and the weight of a horse suspended from it. When put back on the car, the belt performed perfectly at the same adjustment! That's convincing proof of the advantages of Thermodized Pre-Stretching.

HERE'S A HORSE OF A DIFFERENT COLOR

PROLONG ENGINE LIFE...

USE

MOPAR OIL FILTERS and Filter Elements



THRIFT MODEL
REPLACEABLE-
ELEMENT TYPE

FILTERING
ELEMENT IS EASILY
REPLACED



STANDARD MODEL UNIVERSAL SEALED-TYPE
OIL FILTER ALSO AVAILABLE

OFFICIAL REPLACEMENTS
FOR

Plymouth

DODGE

DeSoto

CHRYSLER

DODGE *Job-
Rated* **TRUCKS**



MOPAR filtering elements thoroughly cleanse oil before recirculating. Reduce engine wear. Prolong engine life. Save engine repairs. Build customer good will.

NOTE TO ALL REPAIR SHOPS

If you need parts of any kind for a Plymouth, Dodge, De Soto, or Chrysler, obtain them from a dealer for these vehicles.

New Thursday Night Program! The Music of Andre Kostelanetz with the most popular stars of the musical world, Thursday, C.B.S., 9 P.M., E.T.

BUY VICTORY BONDS

CHRYSLER CORPORATION—PARTS DIVISION, DETROIT 31, MICHIGAN

HARTMAN Meets Every Demand for Up-to-the-Minute Battery Analyzing and Charging Service!



Ask Your Jobber to Demonstrate the HARTMAN HR-53 BATTERY ANALYZER and CHARGER

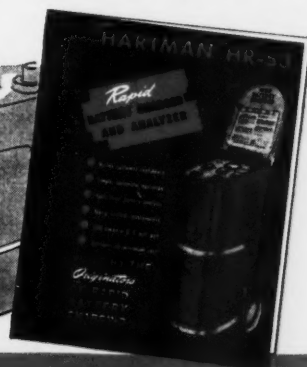
With Hartman HR-53, battery testing and charging is made as easy and important a part of regular service as checking oil and tires. HR-53 is a completely self-contained unit...has everything you need to offer the *best battery charging service in town*...no racks, benches or extra floor space are required.

Such features as individual cell analysis, discharge desulphating unit, and 100 ampere out-put of HR-53 enable dealers to render a more complete and better service than ever before. For economy and long-life HR-53 features include Navy-sealed, precision type instruments, multitap switch for fine current adjustments, extra heavy duty transformers, solid bronze non-corrosive plier-type clamp and fully automatic time switch. In a few seconds HR-53 is hooked

up...you go about other work as battery is being charged, saving you many precious man-hours, giving your customers quick, efficient service.

Start now making extra profits with HR-53; send for your catalog folder or order your machine direct from your jobber for *immediate delivery*! HR-53's now obtainable *without any priority*!

**A PROFITABLE
HABIT...
ANALYZE THE
BATTERY
ON EVERY
GREASE JOB!**



HARTMAN

CORPORATION OF AMERICA

6417 Manchester • St. Louis 10, Missouri

American Brakeblok

TRADE MARK REG. U.S. PAT. OFF.

BRAKE LINING



**"We Stop 'em
All Safely"**

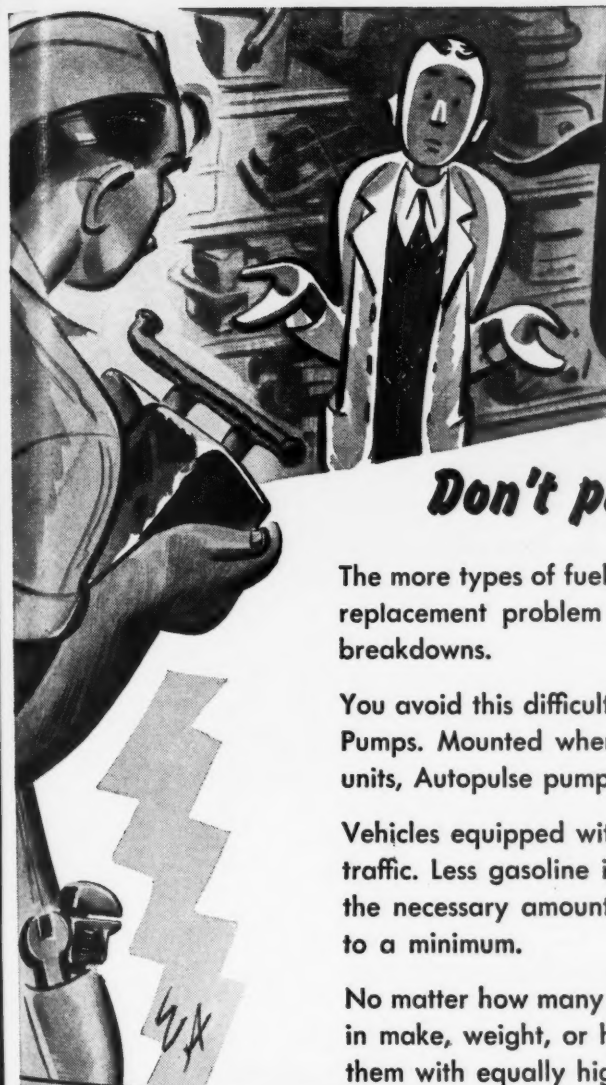
- says Stopper

AMERICAN
Brake Shoe
COMPANY

AMERICAN BRAKEBLOK
DIVISION
DETROIT 9, MICHIGAN



Master stocks in 38 NAPA warehouses. Jobbers everywhere
give prompt service.



**sorry—
lots of fuel pumps
here, but not
the one you want**

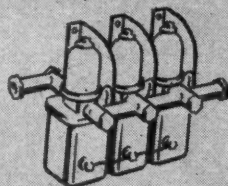
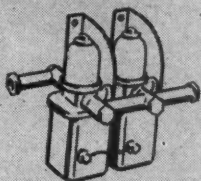
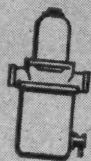
Don't put yourself in this spot

The more types of fuel pumps you use, the more troublesome is your replacement problem and the more time you lose on fuel pump breakdowns.

You avoid this difficulty by standardizing on Autopulse Electric Fuel Pumps. Mounted wherever you wish, in single, double, or multiple units, Autopulse pumps are instantly adapted to any motor vehicle.

Vehicles equipped with Autopulse start easily, and run smoothly in traffic. Less gasoline is used because Autopulse pumps deliver only the necessary amount of fuel. Trouble from vapor lock is reduced to a minimum.

No matter how many vehicles you operate, or how much they differ in make, weight, or horsepower, Autopulse will serve every one of them with equally high efficiency.



AUTOPULSE



Write us direct for quotation

AUTOPULSE Corporation

2321 Brooklyn Ave., Detroit 1, Michigan

give
BETTER SERVICE
 and take
BIGGER PROFITS
 use



BENDIX PARTS CLEANER

It's easy to give your customers better service when you use Bendix* Parts Cleaner. Just dip engine parts, carburetor parts or any metal part into a can of this cold immersion liquid cleaner and dirt, grease, carbon and gum will quickly disappear.

You *really* save time when you use Bendix Parts Cleaner—and time saved is money made.

For better, faster service and bigger profits order Bendix Parts Cleaner today.

*TRADE MARK

**BENDIX PRODUCTS DIVISION
 SOUTH BEND 20, INDIANA**



- **SAFE**—Non-inflammable, non-toxic.
- **FAST**—Rapid penetration and wetting action does a better job in less time.
- **SIMPLE**—No special tanks or heating equipment are needed.
- **HARMLESS**—Will not blacken, pit or eat metal parts.
- **ECONOMICAL**—Does not weaken with use.

It won't be long

If will pay you well to wait just a little longer for tomorrow's Fast Battery Charger! Combining eye-appeal with electrical and mechanical perfection, FOX designers and engineers have developed the one Fast Battery Charger that will do everything a charger should do.

Be sure of getting your share of tomorrow's battery charging profits! Include a FOX FAST BATTERY CHARGER in your plans. *It's coming soon!*

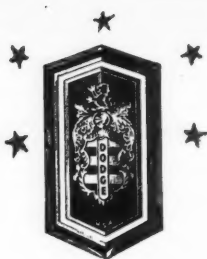
NOW!

A
FOX
Fast
**BATTERY
CHARGER**
will soon be ready
for you!



FOX

PRODUCTS COMPANY
PHILADELPHIA 41, PA.



841 Were Chosen

841 new dealers have invested \$28,093,466 in Dodge dealerships since January, 1942.

These new organizations have not merely survived the war. They have progressed and prospered.

Any one of them, we believe, is worth more today than when it started in business.

Each of them will now move into the post-war period with the greatest individual market opportunity the motor car and truck business has ever afforded.

They will have the sales and service privileges on Dodge and Plymouth cars and on Dodge job-rated trucks.

They will blanket the transportation needs of their communities.

We believe none of these new dealerships are for sale. Dodge has a few more such opportunities,—for the right people.

•

DODGE • PLYMOUTH • DODGE Job-Rated TRUCKS

DODGE — DIVISION OF CHRYSLER CORPORATION, 7900 JOS. CAMPAU, DETROIT 11, MICH.

THE
WEATHERHEAD
"LINE":



Fittings



Fuel Lines



Dash Controls



Drain Cocks

World's Largest
Manufacturer
of Fittings and
Flexible Hose
Assemblies

The
WEATHERHEAD
COMPANY
Cleveland, Ohio



*"Now you know what they mean when
they talk about manpower shortage!"*

prest on the coast to

LOOK HOW PREST-O-LITE HELPS YOU SELL

Radio Coast to Coast



Action-getting spot radio commercials beamed directly to battery buyers in your territory. They tell car owners about Prest-O-Lite, "The Battery With a Kick," help build traffic and volume for you. It's the most effective spot radio program in battery history.

Sales Building Kits

Colorful displays, window trims, novelties—all designed to help you build volume and profits right at the point of sale. Every piece is based on ideas proved in use by thousands of dealers coast to coast.



o·lite

air... coast

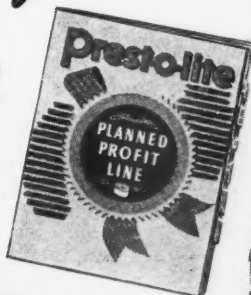
THE BATTERY
WITH A ...

KICK

Prest-O-Lite Profit Plan

Prest-O-Lite's Profit Plan is made-to-order for dealers who want to do more business—make more money. Cash in on Prest-O-Lite in 1945, see your jobber or write to

PREST-O-LITE BATTERY CO., INC.
Indianapolis, 6
Indiana



★

Prest-O-Lite Batteries
are manufactured at

INDIANAPOLIS
NIAGARA FALLS
ATLANTA
OAKLAND
OKLAHOMA CITY
TORONTO, ONT.





**Look at his beautiful eyes!
Just like his mother's.**

**Did you feel his grip?
He'll be a halfback like Joe.**



YES! Men and women look at things, including new babies and automobiles, with different eyes. Automotive sales history shows that, from a woman's point of view, appearance is more important than price.

LADIES' HOME

Journal



**WHAD'YA MEAN
A SELF-CLEANING
MUFFLER?**



ASK YOUR PRATT JOBBER . . .

He'll explain . . .

"Can't clog" SCOOP ACTION, insuring smoother, quieter, more efficient motor performance. There are many other PRATT features he'll tell you about, including stronger, longer wearing shells of cold rolled steel, reinforced from end to end by continuous, interlocked 4-ply spiral ribs.

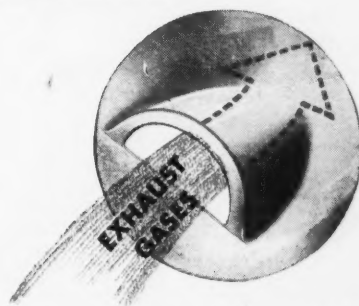
More selling features, greater *eye* and *buy* appeal, and peak customer satisfaction are your assurance of more sales and greater profits with the PRATT Line of Spiral Mufflers. See your jobber . . . and next time install a PRATT.

PRATT INDUSTRIES INC., FRANKFORT, N.Y.

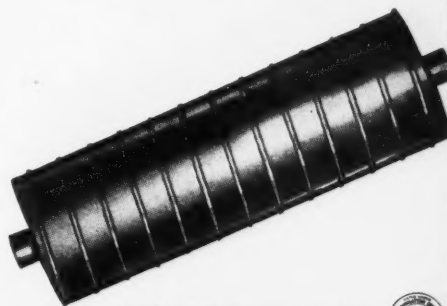
In Canada: PRATT CHUCK COMPANY, Ltd., Toronto, Ont.

Pratt Replacement Mufflers are sold only through jobbers.

*Join the Profit Parade with Pratt Spiral Mufflers
and watch your Muffler Sales Pyramid.*



Patented PRATT SCOOP ACTION swirls exhaust gases into silencing chambers for better silencing and more efficient motor operation. Because PRATT SCOOPS are self-cleaning, they *can't* clog.








Pratt Spiral Mufflers are approved by Underwriters' Laboratories, Inc.



PRATT *Spiral* MUFFLERS
DIFFERENT . . . BETTER . . . FASTER SELLING

THE GROWING *INLAND* LINE MEANS FASTER... BETTER TIRE and TUBE REPAIRS and MORE PROFITS for *INLAND* DEALERS

FOR SERVICE STATIONS GARAGES and COMMERCIAL VULCANIZERS

-  Tire and Tube Vulcanizing Equipment
-  Tire Vulcanizing Sections, Gums and Cement
-  Tire Emergency Patches and Cement
-  Tube Vulcanizing Gums and Cement
-  Tube Emergency Repair Material—Cold Type

● New tire and tube repair equipment and materials . . . added to the line that started with the famous Inland Tire Vulcanizing Unit for small shop operation . . . mean more profits for Inland Dealers.

Four years of war-time repairs on both the home and fighting fronts have proved to millions of civilians and men in service that Inland Vulcanizing Sections and other repair materials measure up to the repairs demanded by the toughest, longest job American tires have been called upon to do.

That's why each new Inland product . . . in the familiar green, yellow, and red containers . . . on your shelves and in your shop means more tire and tube repair business for you . . . more customers coming back to *you* for tire and tube service.

INLAND VULCANIZING EQUIPMENT FOR TIRE AND TUBE REPAIRS

Inland Tire and Tube Vulcanizing Equipment meets the service station and small shop need for a practical simple method of making professional factory-perfect vulcanized repairs. Commercial vulcanizers' shops also find it a profitable addition to large equipment for turning out a large volume of quick service jobs. Compact and easy to operate, complete Inland Tire Repair Shop takes up only 7 square feet of space . . . handles tread and sidewall repairs on passenger tires up to 7.50 x 16 . . . and repairs on synthetic or natural rubber tubes of all sizes.



INLAND



INLAND VULCANIZING GUM and CEMENT for Natural and Synthetic Rubber Tubes

Inland Red Vulcanizing Tube Repair Gum comes in 6" x 75" rolls for patching small or large injuries to all passenger car, truck and other heavy duty tubes. Inland Red Vulcanizing Tube Repair Cement for use with Inland Red Gum, provides a permanent bond between patch and tube.



INLAND Emergency Tire Patches TO USE AND SELL

For temporary cold, non-vulcanized repairs in service stations and roadside emergencies. Packed in 3-color protective cartons for you sell extra patches to help your customers, in addition to those you install in your shop. 3 shapes, 5 sizes—for injuries from nail holes to 3½" breaks.



See Your Jobber For Immediate Delivery

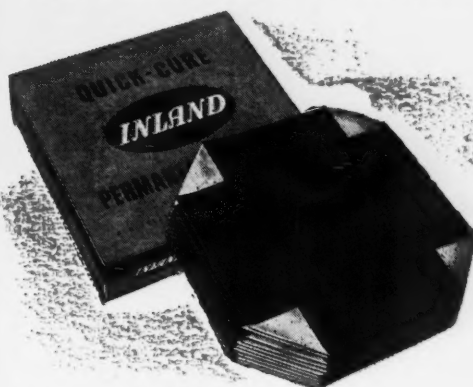
Inland's tremendous production provides your automotive jobber with an ample stock at all times—no time lost waiting for delivery.

INLAND RUBBER CORPORATION

Subsidiary of Minnesota Mining & Manufacturing Company
Branches in thirteen principal cities

TIRE MANUFACTURERS SINCE 1910

INLAND SECTIONS and MATERIALS for Vulcanized Repairs That Last the Life of the Tire



Inland Quick-Cure Permanent Vulcanizing Sections, available in 19 sizes for service stations, garages, tire shops, and large vulcanizers make repairs the strongest part of the tire. All Inland Sections are semi-cured . . . a step that saves you 30 to 40 minutes on every job. Sizes from 3" x 3" for nail holes in passenger tires, to 20½" x 20½", 10-ply, for 6" breaks in 12 and 14 ply heavy-duty casings. Inland also makes a complete line of highest quality tread and cushion gums, vulcanizing cement and talc.



GET COMPLETE INFORMATION IN THESE FREE FOLDERS

Inland Rubber Corporation
33 S. Clark St., Dept. MA10, Chicago 3, Ill.
Send me Information on these Inland Products:

- ☐ Tire Vulcanizing Equipment
- ☐ Quick-Cure Permanent Vulcanizing Sections and Materials
- ☐ Tube Vulcanizing Equipment and Materials
- ☐ Emergency Tire Patches and Cement

Name.....

Address.....

Town.....

Here's Where the Trouble Starts!



*And here's where
Trouble Starts on an Oil Pumper*



It takes rings PLUS bearings to restore lasting power, pep and economy in an oil pumper. Worn bearings endanger hard-to-get engine parts by permitting excess oil to flood combustion chambers. This oil burns to carbon on pistons, piston rings, valves and spark plugs, robbing these parts of efficient performance. Even the best of new rings are made inefficient by excessive oil throw off from badly worn bearings. Unchecked, bearing wear may lead to costly crankshaft damage.

So, when you have an engine opened up for reconditioning, make sure you give rings, as well as other engine parts, a chance to do a full job! Insure smooth, economical engine performance . . . replace worn bearings with Federal-Mogul Oil-Control Bearings. (Service bearings are still scarce. We are doing all we can to maintain the supply.)

FEDERAL-MOGUL SERVICE • DETROIT 1, MICHIGAN
DIVISION OF FEDERAL-MOGUL CORPORATION

Replace With Genuine

FEDERAL-MOGUL

Oil-Control Bearings



KEEP YOUR WAR BONDS . . . PREVENT INFLATION!

In St. Louis

72%
OF ALL CARS
Need Painting!



Most Cars in Your Area, too, need Paint Protection

FROM the "Show-Me" State comes the startling fact that 72.3% of the cars in St. Louis are paint job prospects. If *your* area follows the national average, 2 out of 3 cars that pass your door need paint.

Here's a paint job profit opportunity that is yours for the years ahead! As shortages ease

up, you'll want to be prepared to go after this business.

So, give your paint shop a thorough checkup for speed, efficiency and economy of operation—or ask your DeVilbiss distributor to do this for you.

THE DEVILBISS COMPANY • TOLEDO 1, OHIO
Canadian Plant: WINDSOR, ONTARIO



DE VILBISS
Spray Systems

SPRAY EQUIPMENT • EXHAUST SYSTEMS • AIR COMPRESSORS • HOSE & CONNECTIONS

Post Advertising
Pages Have Spoken
for MORE Years,
with MORE Authority,
to MORE People
with MORE Influence,
than those of
Any Other Magazine



AS they have since the birth of the automotive industry, millions will again look on the advertising pages of The Saturday Evening Post

for all that is new and practical in automobile accessories.

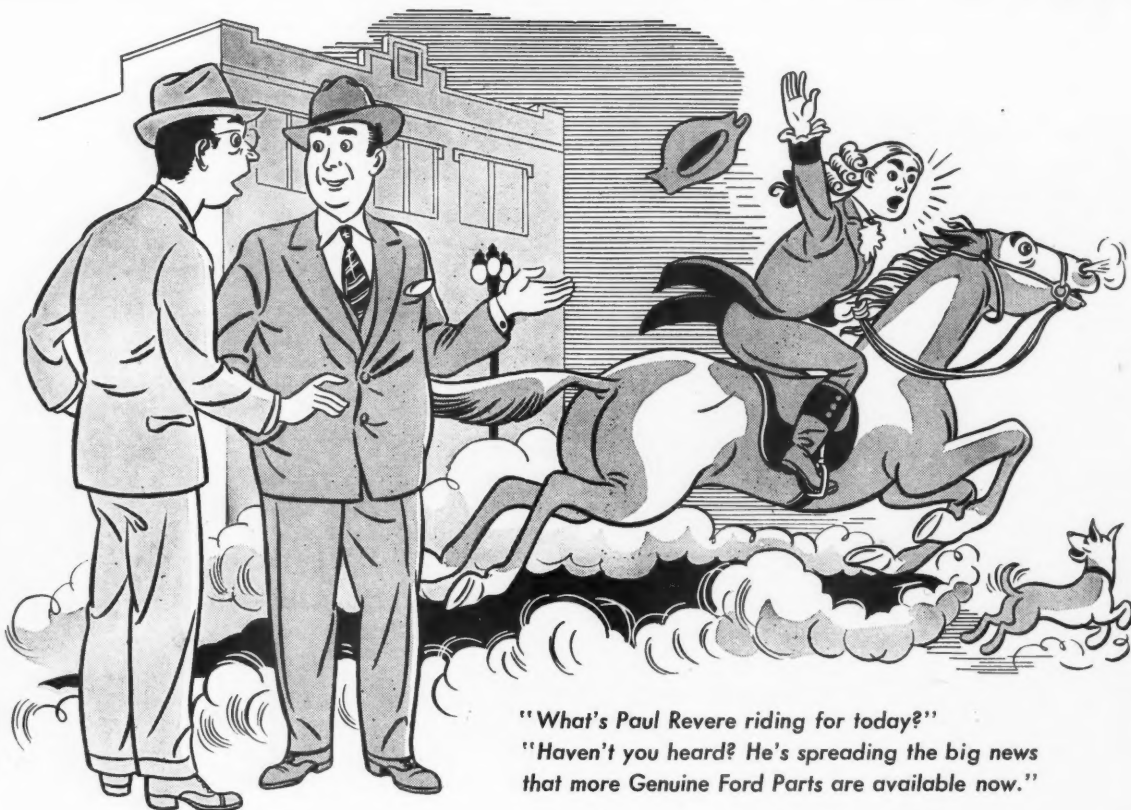
Post readers are your best customers, with living standards and incomes high above the average. They have the money to buy the things they want.

Year after year, in every community, in every neighborhood, in every income group—Post readers are the first to buy the new and better things. They set the pace in their communities, creating and influencing the demand that establishes brand preference.

Today, as it was yesterday and will be tomorrow, The Saturday Evening Post is the strongest link between the accessories dealer and the accessories buyer.

THE SATURDAY EVENING
POST

Survey after survey proves that people pay more attention to advertising in The Saturday Evening Post than in any other magazine.



"What's Paul Revere riding for today?"
 "Haven't you heard? He's spreading the big news
 that more Genuine Ford Parts are available now."

YES, MORE GENUINE FORD PARTS ARE AVAILABLE NOW

It's good news for dealers, garages and service stations that restrictions are easing up and the Ford Motor Company is stepping up the volume production of Genuine Ford Parts.

You profit two ways when you install Genuine Ford Parts. First, your mechanics turn out more jobs because Genuine

Ford Parts just naturally go together faster. This means more money for your mechanics . . . more profit for you.

Second, you make more satisfied customers with Genuine Ford Parts . . . this helps insure the future success of your business. Any way you look at it, it always pays to use Genuine Ford Parts.



STOCK UP NOW FROM YOUR NEAREST DEALER

"Oh Boy...
got a genuine aluminum head"



Good going, Joe. Cylinder heads of Alcoa Aluminum really give engines more oomph—proved on passenger cars, buses, trucks and airplanes. Aluminum heads just naturally handle heat more efficiently than heads of other materials. You feel the difference when you call on an engine for a quick get

away. That engine is tops in performance.

Alcoa Aluminum cylinder heads were standard on much of our fighting equipment. You'll be seeing them soon on civilian engines.

ALUMINUM COMPANY OF AMERICA, 2133 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN **ALUMINUM**



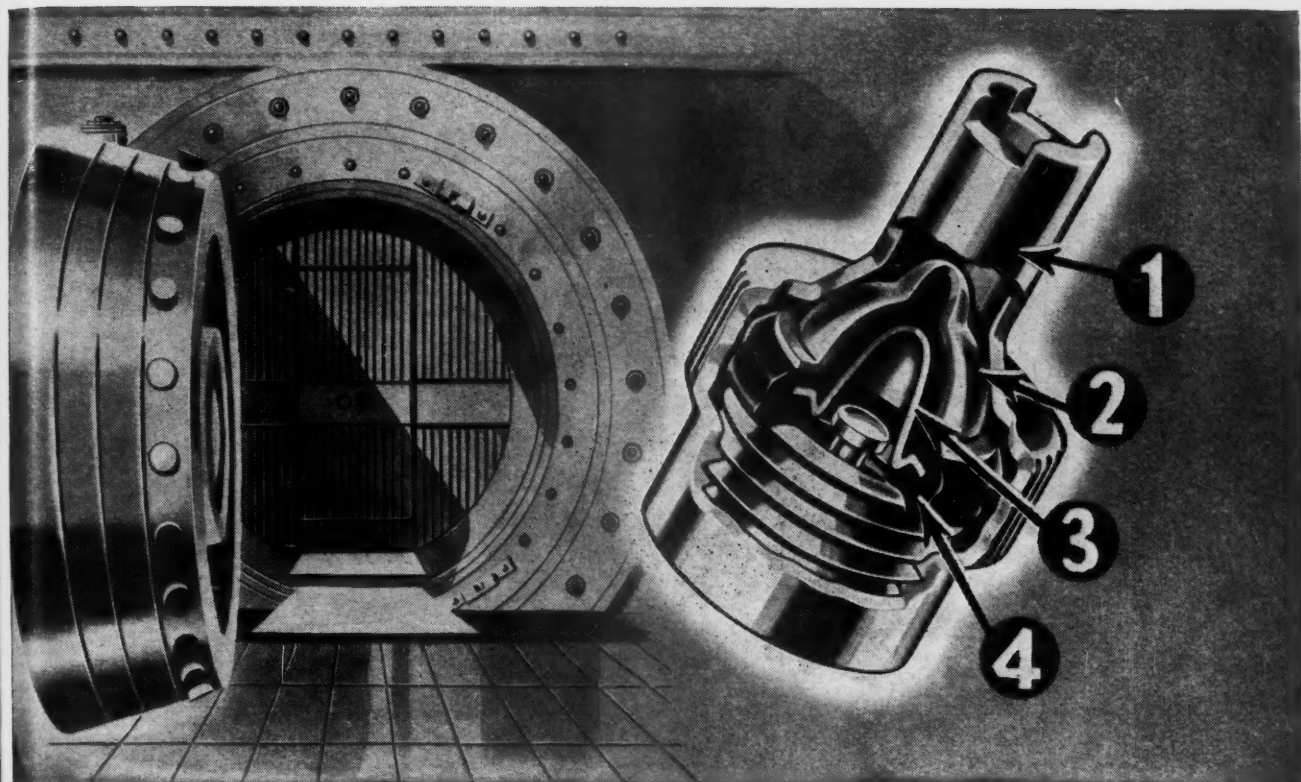


Road and laboratory tests *Prove* that the average General Electric "All-Glass" Sealed Beam Headlamp maintains 99% of its original light output right up to the end of lamp life.

Why? Because the whole thing is a *rugged, hermetically-sealed bulb* that absolutely excludes all dirt, air and moisture.

With G-E Sealed Beam Headlamps, your customers always enjoy "new-car" lighting. Install G-E...the lamps that **DO NOT GROW DIM**

GENERAL  **ELECTRIC** *Sealed Beam* **LAMPS**



The CAP that's ENGINEERED TO SEAL

Your dollars are safe behind this modern bank vault mechanism—engineered to seal out even the cleverest thief. The Schrader airtight valve cap with its 1-2-3-4 piece construction is engineered to do an unequalled sealing job too. Its unique design, its special sealing unit, keeps air in at the valve mouth—prevents any air leaks there when the cap is screwed down fingertight.

Schrader advertisements, like the one reproduced at the right, are appearing—millions of messages a month—in magazines such as American Weekly, Collier's, The Saturday Evening Post, Capper's and Country Gentleman. They tell your customers that it is necessary to cap each and every tire valve with a Schrader airtight cap to "make their tires last longer."

Now that Schrader caps are again available, better check your stock and order supplies now.

*CAPS are vital
for TIRE
CONSERVATION*

A. SCHRADER'S SON, Division of Scovill Manufacturing Company, Incorporated
BROOKLYN 17, NEW YORK



**Air, air everywhere . . .
but not where it counts!**

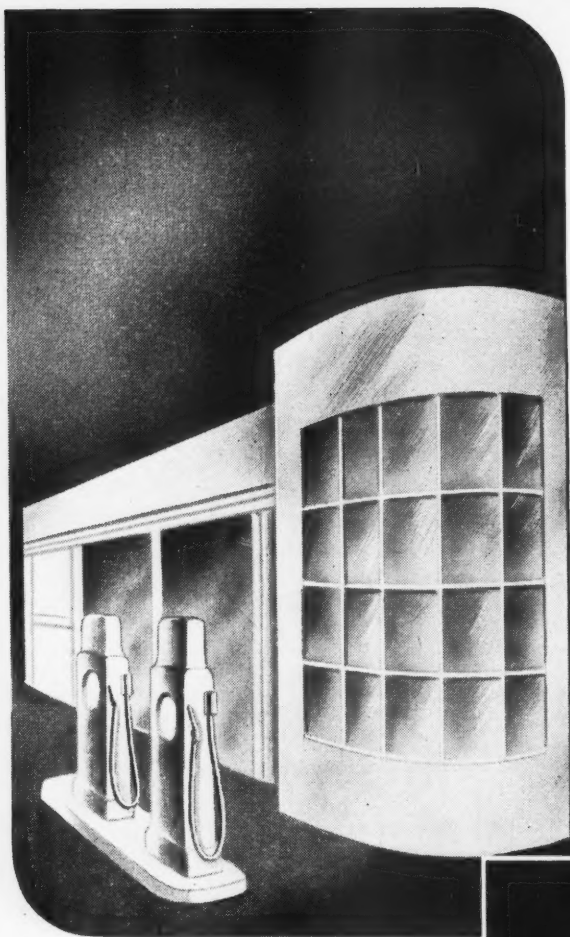
Air costs you nothing—tires cost a lot, if you can get them. Since retaining proper air pressure is so vital to make your tires last longer, why not inflate your tires to proper pressure and always seal that air in at the valve with Schrader airtight Caps?



The sealing unit
inside all standard
Schrader Caps



**Get a set today
and RIDE TOMORROW!**



Hansen

AUTOMOTIVE AIRLINE EQUIPMENT

is part and parcel of the

MODERN SERVICE STATION

● It takes modern equipment such as Hansen air hose couplings and jet oilers to properly service cars, trucks and busses. Every service station, garage, car dealer and fleet owner will find that Hansen automotive air line equipment not only renders an exceptionally fine service but saves much time and material.

Hansen air hose couplings are easy to connect and disconnect, save a great deal of time, effort and air. They will handle pressures from 2 ounces to well over 10,000 pounds without leaking. No twisting or turning to connect or disconnect, merely push plug into socket, it is connected, air is automatically turned on; to disconnect, slide sleeve back air is automatically turned off. Full swivel action prevents kinking of hose.

Hansen jet oiler is manually operated, projecting a solid jet of light or penetrating oil when plunger is depressed. All pump parts are enclosed in handle casting, protecting them from dirt, dust, and breakage. Oil container has a one quart capacity. Send in for free automotive catalogue.

HANSEN MFG. CO.

1786 EAST 27th STREET • CLEVELAND 14, OHIO

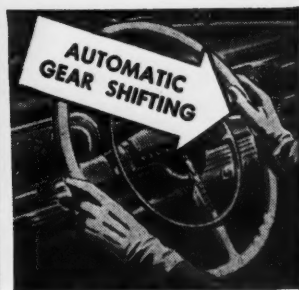
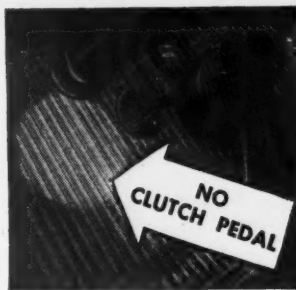


**LATEST NEWS
OF "ALL THAT'S NEW!"**



NEW 1946 OLDSMOBILE

WITH THE NEW AND FINER



New 1946 Oldsmobiles are going *into production* soon.

And what cars! The crowds visiting Oldsmobile showrooms will see the finest products ever turned out by America's Oldest Motor Car Manufacturer. The 1946 Oldsmobiles are big in size, smart in style, advanced in engineering. They're *new* through and through. And they offer that greatest of driving features, General Motors' supreme contribution

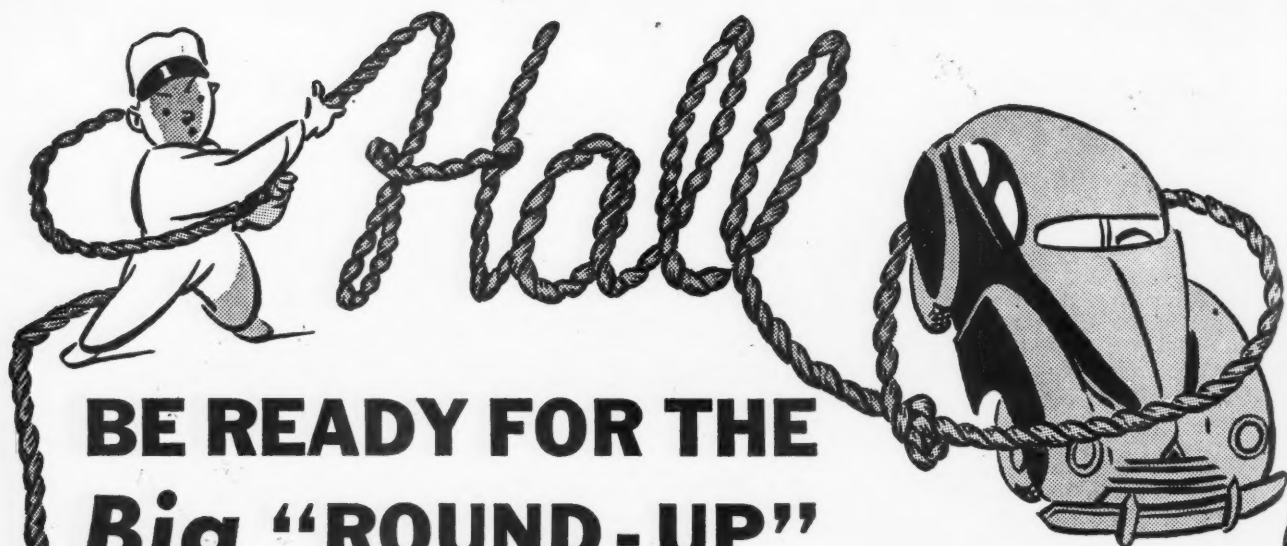
to handling ease and performance — the new and finer Hydra-Matic Drive.

Hydra-Matic Drive is the *automatic* drive . . . the drive that shifts its own gears through four forward speeds . . . the drive that takes the clutch pedal right out of the car. The only controls used in driving a Hydra-Matic Oldsmobile are the *accelerator*

and the *brake*. The rest is simply steering.

Today, as a result of wartime use on tanks and armored cars, Hydra-Matic Drive has been made better than ever, smoother than ever, for the new 1946 Oldsmobiles. As a driving feature — and as a *selling* feature, too — the new Hydra-Matic Drive puts Oldsmobile *out ahead!*





BE READY FOR THE Big "ROUND-UP"

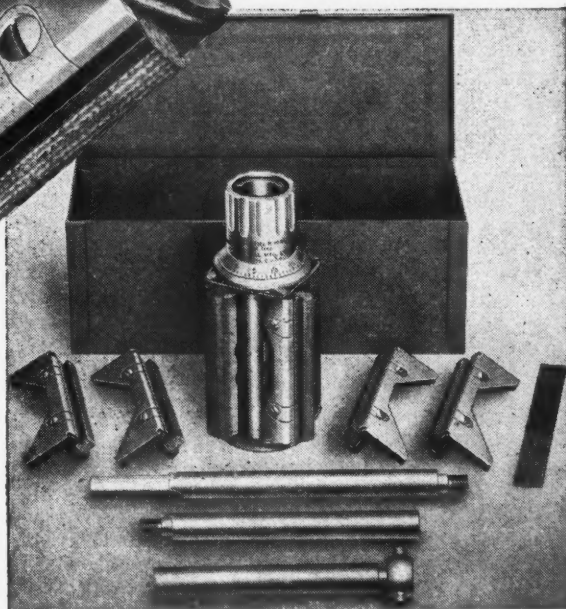
Millions of cylinders will need "rounding-up" with this HALL Model H Hone this year if those engines are going to remain in service until new cars and trucks are available. This faster, lighter weight, wider range Hone with its greater speed and accuracy, finer finish and quick, easy expansion will help you turn out better jobs, faster and more profitably. Use it wet or dry as you prefer; round-up any cylinder from cast iron to inserted steel sleeves. Do it better, faster, more economically with this Model H HALL Hone.

**USE
IT
WET
OR
DRY**



**Model
H
World's
Fastest
Finest-Finish
CYLINDER
HONE**

HALL Model H Cylinder Hone with Micrometer Adjustment comes complete in metal box as shown at right. Handles range of 2.6" to 5½". Special oversize Stone Carriers are available to increase range to 6½". Honing Stand and Vacuum System also available. Long lived Honing Stones in a variety of grits are reasonably priced and readily available.



*Order the HALL
Model H Cylinder
Hone from your
Jobber today.*

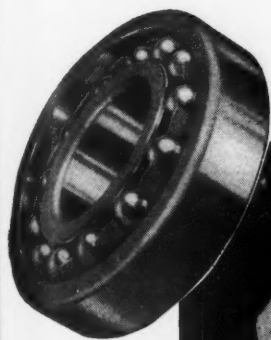
THE HALL MANUFACTURING CO., TOLEDO 7, OHIO

HALL

*Write the factory
about HALL Valve
Servicing Equip-
ment today.*

PACKAGE OF PERFORMANCE

FOR FLEETS



● Inside Philadelphia shop of Atlantic Refining Co.

Proper care begins in the stock room, where bearings should be stored in original unopened packages. And packages shouldn't be opened until you're ready to install the bearings. Handle bearings with clean, dry hands,

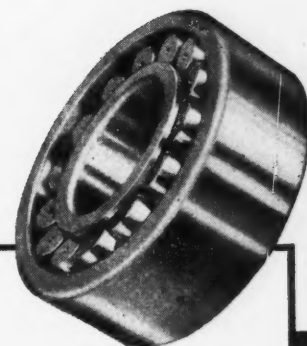
lay them on clean paper, and keep them covered. Properly handled and lubricated, an SKF Bearing pays big returns in Performance throughout a long, useful life... keeps your fleet costs down.

5862

SKF INDUSTRIES, INC., PHILADELPHIA 34, PA.

SKF

BALL AND ROLLER BEARINGS



Pioneering in practically all industries, SKF produces ball and roller bearings of all types and sizes, from $\frac{1}{8}$ " to 59" O.D.

SKF
PUTS THE RIGHT
BEARING IN THE
RIGHT PLACE

\$300,000,000.00 WORTH OF *New* AUTOMOTIVE PARTS

Available NOW for immediate delivery to

DISTRIBUTORS • DEALERS • SERVICE GARAGES • FLEET OPERATORS



READ THIS CAREFULLY!

It tells you what we have to sell, method under which we sell, and how you can qualify for buying.

PARTS FOR ALL CARS AND TRUCKS

We have parts for practically every make and type standard car and truck manufactured in the U. S. since and including 1939. Every part from a cotter pin to an engine. Blocks, transmissions, axles, differentials, spark plugs, etc. If it is a part of an automobile or truck we have it for sale.

NEW SALES METHOD

Effective September 10, 1945 all new automotive parts are sold on a standard price list basis instead of on a bid basis.

TERMS

No deposit required. All sales handled on 30-day payment basis.

WE PAY SHIPPING COSTS

Full Freight allowed everywhere in the U. S.

MINIMUM ORDER

To limit handling costs, the minimum order for parts we can accept is \$500.00 NET (after your discount is deducted). It is anticipated that small dealers who cannot use the minimum quantity of parts will be serviced by their distributors.

How to qualify

We have sent to our entire list of distributors, dealers, service garages, fleet operators, a complete broadside together with a qualification blank. If you have not received this notice write your regional office. Trade discounts apply at all levels.

Write

Do NOT CALL or PHONE your local surplus property regional office. Our staff workers can handle applications quicker and more efficiently by mail than any other method. PLEASE COOPERATE.

OFFICE OF SURPLUS PROPERTY DEPARTMENT OF COMMERCE AUTOMOTIVE DIVISION

Firms in Connecticut, Maine, Massachusetts, New Hampshire, Vermont or Rhode Island write—600 WASHINGTON ST., BOSTON 11, MASS.

Firms in New York or New Jersey write—61st FLOOR, EMPIRE STATE BLDG., NEW YORK 1, N. Y.

Firms in District of Columbia, Delaware, Pennsylvania, Maryland or Virginia write—LAFAYETTE BLDG., 5th AND CHESTNUT STREETS, PHILADELPHIA, PA.

Firms in Indiana, Kentucky, Ohio, or West Virginia write—704 RACE STREET, CINCINNATI 2, OHIO.

Firms in Illinois, Michigan, North Dakota, South Dakota, Minnesota or Wisconsin write—209 S. LASALLE STREET, CHICAGO 4, ILL.

Firms in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina or Tennessee write—105 PRYOR STREET, N. E., ATLANTA 3, GA.

Firms in Louisiana, Texas, Arkansas or Oklahoma write—P. O. BOX 1407, FORTH WORTH 1, TEXAS.

Firms in Iowa, Kansas, Missouri or Nebraska write—2605 WALNUT STREET, KANSAS CITY 8, MISSOURI.

Firms in New Mexico, Utah, Colorado or Wyoming write—1030 15th STREET, DENVER 2, COLORADO.

Firms in California, Arizona or Nevada write—30 VAN NESS AVENUE, SAN FRANCISCO 2, CALIF.

Firms in Oregon, Montana, Idaho or Washington write—2005 FIFTH AVENUE, SEATTLE 1, WASHINGTON.



Safeguard
**THE HEART
OF THE
FUEL SYSTEM**

One of the most reliable parts of an engine is the AC Fuel Pump, heart of the fuel system. That's because it's *first quality* in design, material, and manufacture,—built to meet the engine maker's own requirements.

Serve your customers best, and protect your own reputation, by replacing worn pumps with new or factory-rebuilt AC's, and making repairs with authentic AC Parts Kits or Diaphragm Kits.

QUALITY FEATURES

- * Careful control of pressure and flow assuring correct fuel supply.
- * Accurate hardening, precision machining of parts essential to long life.
- * Accurate control of spring tensions and temper.
- * High, and controlled, pin hardness.
- * 4-layer, patented-impregnation diaphragms of special airplane cloth.
- * Carefully finished rocker arm pads, located to center on cam.
- * Split-hair rocker arm clearance and control of pad hardness.
- * Uniform pull rod hardness at pin holes.

TAKE CARE OF YOUR CAR TILL NEW ONES ARE AVAILABLE

AC
FUEL
PUMPS

SEND FOR AN AC PUMP SHOP MANUAL

Field Service Department, AC Spark Plug Division, G. M. Corp.
910 Union Industrial Building, Flint, 3, Michigan

Gentlemen: Please send at once, no charge, the AC Shop

Manuals checked:

- | | |
|--|--|
| <input type="checkbox"/> How to Service Spark Plugs | <input type="checkbox"/> HOW TO SERVICE FUEL PUMPS |
| <input type="checkbox"/> How to Service Spark Plug Cleaner | <input type="checkbox"/> How to Service Air Cleaners |
| <input type="checkbox"/> How to Service Oil Filters | <input type="checkbox"/> How to Service Speedometers |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | MA-10 |

NAME _____

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CITY _____

STATE _____

McAleer

DYNAMIC ACTION

Vibromatic

Compressed Air

CLEANER



Cleans Automobile Upholstery and Carpets

**Sell This Service or Give it Free
It Pays You Well Either Way!**

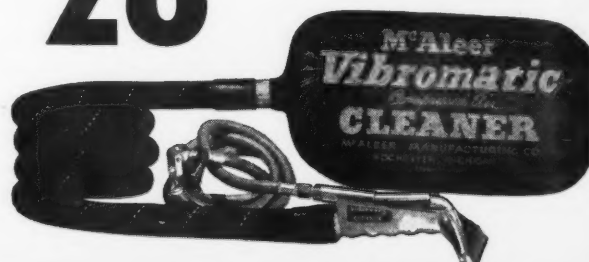
You'll bring your customers back . . . more often . . . more profitably . . . with this Dynamic-Action Vibromatic cleaning service. You'll attract new customers, too.

Use the McAleer Vibromatic Cleaner for upholstery and carpet cleaning specials—it's a natural to tie-in with a car wash. Or you may prefer to offer this cleaning service as a special courtesy. It will pay you either way—in valuable good-will, in customer satisfaction, and in additional business.

The Vibromatic Cleaner attaches to your present air outlet. Produces a powerful, vibrating force—2000 pulsations per minute—that beats the dust, dirt, and sand from car upholstery and carpets and whisks it away with powerful air suction. More efficient than units that cost four times as much. Cleans faster, better, at less cost. Order from your jobber today.

**FASTER, BETTER
...at LESS COST!**

ONLY
\$28⁹⁵ COMPLETE
with high pressure hose, extension tubing, receiving bag.



McAleer
MANUFACTURING CO.



QUALITY-CONTROLLED
POLISHES, WAXES, and
AUTOMOTIVE ACCESSORIES

ROCHESTER, MICHIGAN

McALEER MANUFACTURING CO., LTD. - CATHAM, ONTARIO



BARRETT SAYS:

"Here's How To Eliminate 98% Of All Brake Troubles"...



The Brake Dokter Corrects Faulty Brakes Right On the Car or Truck!

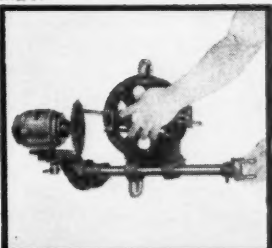
THE Brake Dokter trims one to two hours from every reline job . . . removes troubles caused by warped shoes and backing plates, worn anchors or other similar conditions . . . assures 100% shoe-to-drum contact . . . helps avoid costly comebacks for readjustment . . . gives every vehicle maximum brake safety . . . corrects grabbing, chatter, side-pull, rapid lining wear, and noises.

Simple one-man operation . . . enables any mechanic to do faultless brake work . . . operates off any light socket . . . light in weight . . . handles any size brake assembly up to 24" diameter, 6" width . . . makes unnecessary all other gauges, calipers, dummy drums and other gadgets. The Brake Dokter is a drum gauge, centralizing tool, lining grinder, caliper and clearance gauge all in a single machine. Accurate, versatile, fast, efficient, low in cost. Ask your jobber or write for complete information **now!**

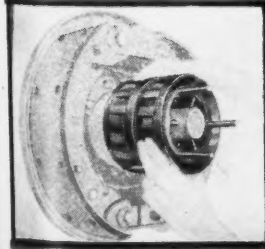
THE BRAKE DOKTER 1-2-3-4 METHOD FOR PERFECT BRAKES



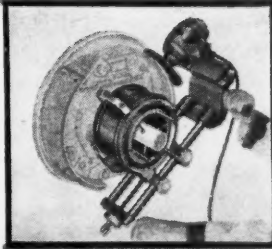
1. It's simple to obtain accurate drum size for setting the Brake Dokter. The Micrometer shows size of drum in 1000th's of an inch indicating wear or oversize.



2. There's no guesswork in transferring drum size directly to Brake Dokter. Locked in position, there's no chance for error.



3. Adaptors for adjusting or grinding center on axle or spindle—fast and easily. Insures accuracy and perfect alignment.



4. Swing the Dokter around the shoe assembly to find high spots. Then turn the switch and watch this almost human machine do a perfect job.

BARRETT EQUIPMENT CO.

The World's Finest Brake Service Equipment
CASS AVENUE AT TWENTY-FIRST ST. • ST. LOUIS 6, MO.



OFFICIAL PHOTOGRAPH U. S. A. F.

RUBBER is *Still at War!*

There's None to Waste . . . Keep Tires Running Longer with BOWES TIRE-SAVING REPAIRS

● ENDING the war hasn't ended the tire shortage for civilians . . . and it won't within the foreseeable future. Rubber in military use will be needed indefinitely, cannot be released for reprocessing into tires for civilians.

True, civilian tire production is being stepped up. But so great is the shortage that there simply can't be enough tires for everybody for a long time to come. In the meanwhile, most civilian tires now running will have to *keep on rolling*. They'll have to be repaired more and more often. This unprecedented demand for tire repairs is your greatest opportunity . . . for service to your country . . . to put money in your jeans . . . and to build a lasting postwar business.

BOWES EQUIPMENT will help you do a BETTER job of tire repairing, do it easier and make more money on it. Tire inspection, with Bowes equipment, is unbelievably easy. You can literally turn tires inside-out, quickly find small cuts, bruises, dry rot BEFORE they become serious. Other Bowes Equipment enables you to make **SAFE, LASTING REPAIRS** that will keep tires running as long as there is anything to run. **BOWES METHODS** will help you save time and materials on every operation, do more jobs every day and make more profit on every job.

If you don't have Bowes Equipment, you are missing a great opportunity to cash in on business that is waiting to fall right into your lap. A factory-trained Bowes Distributor will gladly call on you and tell you all about it without obligating you in any way. Drop us a postal today.

BOWES



Dependable

TIRE SAVING SYSTEM

BOWES "SEAL FAST" CORPORATION, INDIANAPOLIS 7, INDIANA



BUY VICTORY BONDS

Peacetime prospects are very bright

Prospects are bright for Reo and for the operators of Reo sales and service outlets.

An urgent, banked-up civilian demand for commercial transportation equipment, estimated at three million units, assures volume sales—and Reo will get a full share. *First*, because the huge quantities of Reo war-built trucks and tractors have measured up to the most exacting military requirements. *Second*, the finest manufacturing facilities, engineering

skill and craftsmanship are available at Reo. *Third*, the very definite acceptance by American industry of Reo products, which extends back over 40 years, now points toward a new high.

Reo dealers are supported by fifteen strategically located factory-operated branches. The Reo franchise, which dealers themselves helped to write, assures a friendly, profitable dealer-factory relationship. Write for Reo's "Big 7" Questionnaire.

REO MOTORS, INC., LANSING 20, MICHIGAN, U. S. A.

Factory Branches, Distributors and Dealers in Principal Cities



REO

1904 • AMERICA'S TOUGHEST TRUCK • 1945

OCTOBER, 1945

When writing to advertisers please mention Motor Age

153

stops **SLUDGE** * LACQUERS RESINS GUMS, ETC. from being Born!



* Note: Sludge due to improper engine temperatures or "wrong" oils can be stopped only by correction of these conditions.

DeLuxe Oil Filter is More than a "SLUDGE CATCHER"
It's a "SLUDGE PREVENTER!"

OIL TRAVELS ENTIRE DEPTH OF CARTRIDGE IN DELUXE!

LONGER OIL TRAVEL, an important essential to Oil Cleansing. In DeLuxe the oil goes the long way from bottom to top, instead of the short travel route from side to center or center to side!

DELUXE CARTRIDGE has a built-in spring and cone, an exclusive feature essential to DeLuxe oil cleansing.

In a DeLuxe, the asphaltenes and other elements are removed before they can combine to form sludge, varnish, resins, etc.

That's important, for when there's sludge in an oil filter, there's sure to be sludge in the engine, too!

The important thing is to get at the sludge, etc. before it can be born. Then and only then can engine troubles due to these causes be completely prevented!

That is what DeLuxe does . . . and that is the reason why it is the choice of those who compare filter performance on the basis of lowest per mile oil and maintenance costs.

Of interest to car owner, fleet operator, industrial executive and engine manufacturer is the complete story of DELUXE, the truly different oil filter. WRITE FOR FREE BOOKLET TODAY. DELUXE PRODUCTS CORP., 1425 Lake Street, La Porte, Indiana.

YES, DELUXE COSTS MORE... YOU MAKE MORE AND YOUR CUSTOMER GETS MORE... SO EVERYBODY PROFITS MORE WITH DELUXE!



DELUXE Oil Filter

DOES MORE THAN STRAIN OIL... MORE THAN FILTER OIL
ACTUALLY CLEANSSES OIL

1229

Also manufacturers of Cast Iron Pistons of special lightweight design; standard equipment with over forty manufacturers.

FAITHFULLY SAFEGUARDED QUALITY

When you sell Willard Batteries, you sell batteries built to a high standard of quality which has been rigidly maintained and faithfully safeguarded for nearly half a century. Willard quality gives Willard Batteries their extra dependability, extra performance and extra long life. That's why wise buyers buy Willards.



Willard

"SAFETY-FILL"
BATTERIES



Awarded Cleveland
Plant, Willard Storage
Battery Company

Automobile • Truck & Bus • Radio • Motorcycle • Tractor
Aircraft • Charge-Retaining • Marine • Diesel • Stationary

... the power to carry on !

WILLARD STORAGE BATTERY CO. • CLEVELAND • LOS ANGELES • DALLAS • TORONTO

OCTOBER, 1945

When writing to advertisers please mention Motor Age

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"BUCKET BRIGADE"

had its day in Parts Cleaning



NOW

it's modern, fast

Circo Chief

DEGREASER

OLD FASHIONED cleaning methods like old fashioned transportation methods cannot possibly handle to-day's demand or meet tomorrow's competition. ♦ The combined forces of yesterday's parts cleaning trio, bucket, brush and a mechanic are entirely inadequate to produce a thorough job of parts cleaning and too slow and expensive to produce a profit. ♦ Clean, dry parts are the forerunners of profitable repair work and the new streamlined Circo "Chief" degreaser will thoroughly clean and dry dirty, greasy parts in the amazing time of three minutes. Compare this with the slower, sloppier, outmoded and more costly bucket and brush method. There just isn't any com-

parison. Circo "Chief" houses five different cleaning methods, vapor cleaning (automatic), drying (automatic), spraying (automatic), dipping and soaking. Your choice of the method used depends upon the condition of the parts. The "Chief's" wide scope of cleaning operations cover every proven scientific cleaning method known. ♦ If you employ two or more mechanics you can't afford to be without a Circo "Chief" because cleaning costs are cut away down, mechanic is released from a dirty job, giving him many additional hours for profitable repair work, parts are cleaned and dried faster and much better at lower cost. ♦ Send to-day for free literature which gives detailed information on the Circo line.

CIRCO PRODUCTS COMPANY
2835 CHESTER AVENUE • CLEVELAND 14, OHIO



No. 33A
SELF-CALCULATING

By

Edelmann

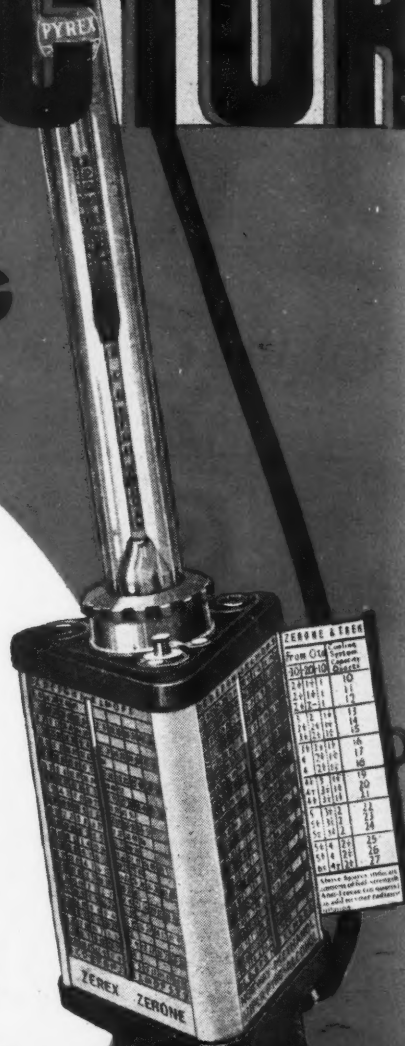
FREEZE-DETECTOR

For EASY, SPEEDY
ANTI-FREEZE TESTING

PROTECT YOUR
CUSTOMERS *this* WINTER

**ORDER
EARLY!**

Only a Limited Quantity
of Genuine No. 33A
Available



*NO SHORTAGE
of Other Lower
Priced Models - ASK YOUR
JOBBER*

E. EDELMANN & CO., Chicago 47, Illinois

OILDEX OIL DILUTION EXTRACTOR

Pat. No. 1,990,657. Other Pat. Pending. Trade Mark Registered

A Proven GAS and OIL SAVER for
all year 'round operation with
2 VALUABLE PLUS
FEATURES FOR WINTER DRIVING

Dependable

METERED AND CONTROLLED Crankcase Ventilation

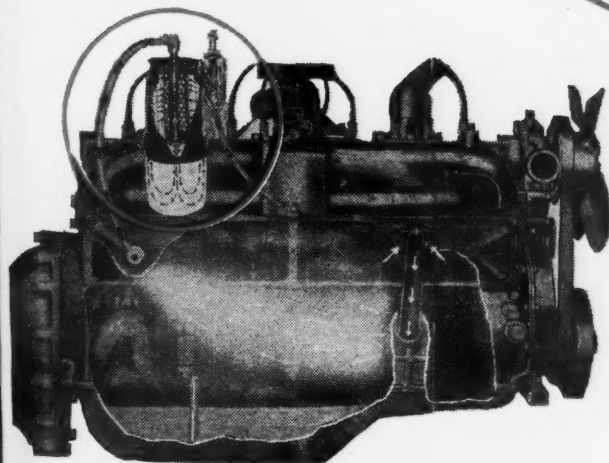
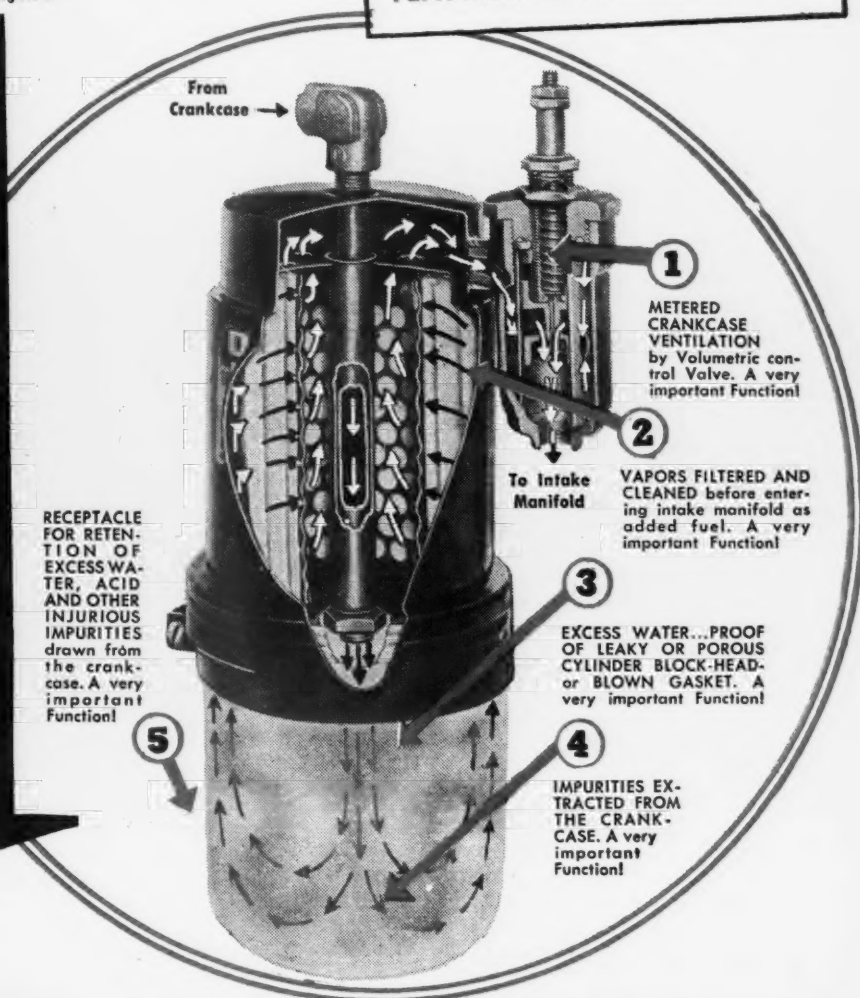
OILDEX is scientifically designed and engineered for the purpose of removing diluent vapors from the crankcase before they condense into damaging liquid impurities. OILDEX extracts, then filters these vapors and returns them through the OILDEX volumetric control valve to the cylinders where they are utilized as reclaimed fuel—resulting in notably increased mileage.

OILDEX thus prevents the crankcase oil from becoming contaminated by impurities, such as water, acid and unburned gasoline.

WINTER FEATURES

- Excess water does not condense in crankcase—with danger of freezing, breaks, and other cold weather hazards.
- Protects driver, foodstuff, etc., from crankcase fumes—particularly obnoxious in winter driving when windows are closed.

RECEPTACLE FOR RETENTION OF EXCESS WATER, ACID AND OTHER INJURIOUS IMPURITIES drawn from the crankcase. A very important Function!



QUICKLY AND PROFITABLY INSTALLED ON ANY MOTOR. ALL MAKES OF CARS, TRUCKS, BUSES, MARINE AND STATIONARY GASOLINE ENGINES CAN BE EQUIPPED. Specify model and year of car when ordering on our money back guarantee. OILDEX lists at \$15.00—FILTREX \$10.00—Complete with Fittings. (Slightly higher on West Coast).



FILTREX

Pat. No. 2,108,110 Other Pat. Pending. Trade Mark

ADVANTAGES

- Light—Compact—Strong
- Series of different densities of filtering elements
- Partially balanced method of filtration
- Low cost of replacements

With OILDEX removing liquid and vapor impurities and FILTREX removing solid and semi-solid impurities the motor receives COMPLETE Protection.

ORDER SAMPLES TODAY ON
OUR MONEY BACK GUARANTEE

Send for New OILDEX Catalog

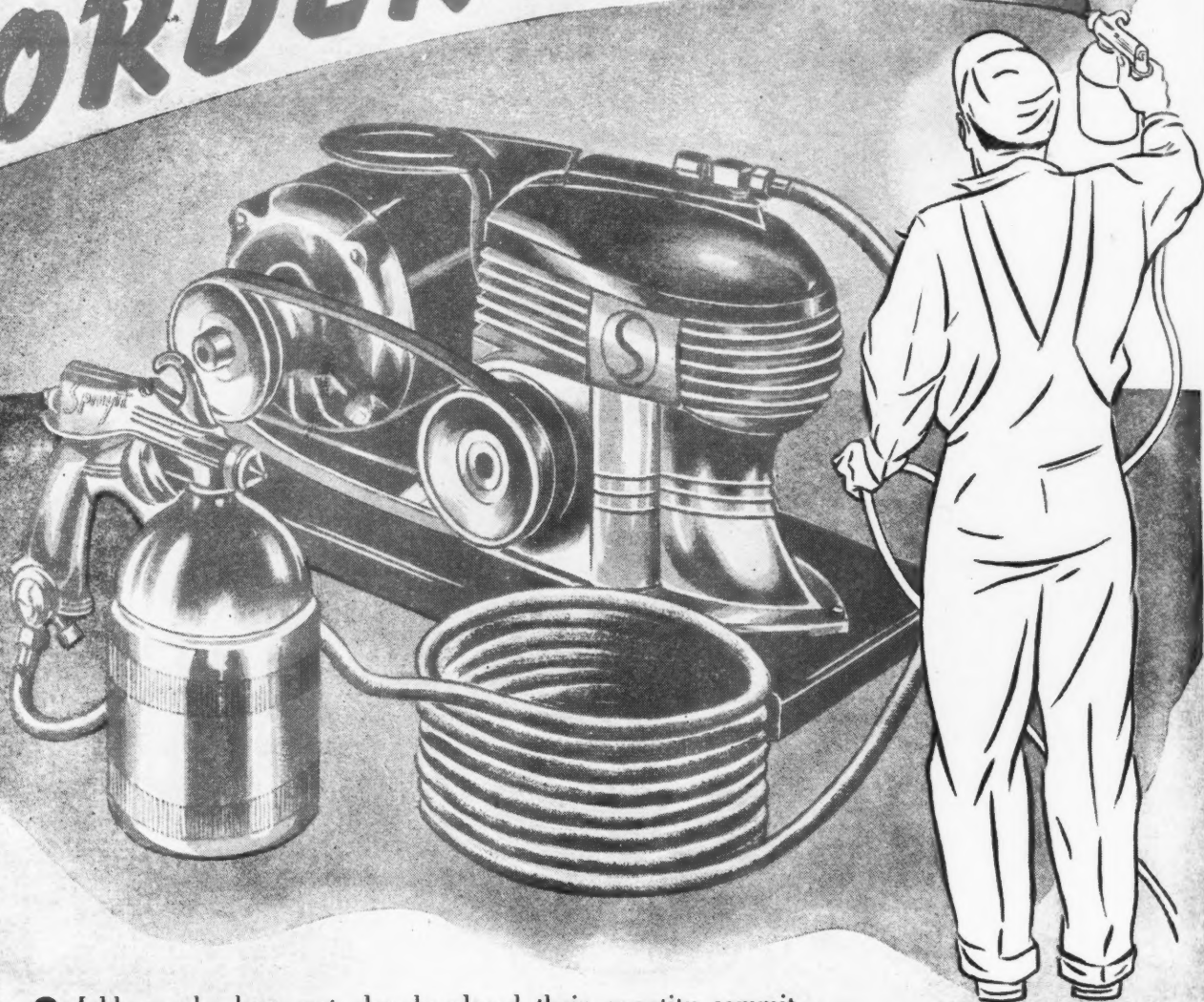
MOTOR ECONOMY PRODUCTS, INC.

SUBSIDIARY OF WATSON ELEVATOR COMPANY

407 WEST 36th STREET

NEW YORK, 18, N.Y.

ORDER NOW!



● Jobbers who have not already placed their quantity commitments for SPRAYIT Paint Spraying Equipment are urged to do so immediately. Orders will be filled just as fast as production conditions permit and in the order in which they are received. DEALERS are asked to keep in touch with their Jobbers regarding expected initial delivery dates. If you do not know the name and address of your nearest SPRAYIT Jobber, write and we'll gladly send this information to you at once.

SPRAYIT

PAINT SPRAYING EQUIPMENT,
AIR COMPRESSORS, SPRAY GUNS,
PUMPS, AIR TOOLS, INSECTICIDE
SPRAYERS, SANDERS AND AL-
LIED FINISHING EQUIPMENT.

EISco

ELECTRIC MOTORS, GENERATORS,
VALVES, PUMPS, HYDRAULIC
CYLINDERS AND CONTROLS FOR
AIRCRAFT, AUTOMOTIVE AND
OTHER INDUSTRIAL APPLICATIONS

ELECTRIC SPRAYIT CO.

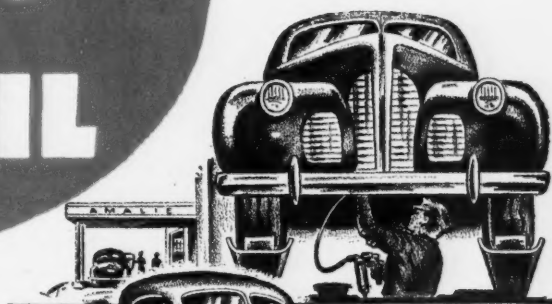
SHEBOYGAN, WISCONSIN

EISco

SPRAYIT

For Winter

AMALIE SUB-ZERO PENNSYLVANIA MOTOR OIL



**Sell the COLD-WEATHER OIL
that works better 2 WAYS!**

Here's a point to remember when telling a customer it's time to change to winter-grade oil.

What the customer wants — and what you give him when you sell AMALIE Sub-Zero — are (1) *easier starting* without excessive drain on batteries, (2) *smoother engine performance* all winter long, in cold snaps or sudden mild spells.

AMALIE Sub-Zero is the 20% oilier winter oil that not only flows freely at low temperatures but clings to pistons and cylinder walls instead of draining off into the crank-

case when the engine is not running. AMALIE gets its greater oiliness — its clingability — from a special refining process which preserves the natural lubricating properties of selected Pennsylvania crude.

When you sell AMALIE Sub-Zero (and AMALIE winter-grade lubricants for all vital lubrication points) you profit two ways — you create and hold satisfied customers.

Ask your AMALIE Distributor, or write Dept. O10.

AMALIE H-D OIL
in Sub-Zero Grades for Essential Uses
AMALIE H-D Sub-Zero Oil, which can be sold to your customers for essential uses, is a complete heavy-duty winter oil. It has fully detergent, dispersive and anti-oxidant features that give motors extra protection for the toughest kinds of service.



AMALIE DIVISION
L. SONNEBORN SONS, INC.
88 Lexington Avenue, New York 15, N. Y.
Refineries: Petrolia and Franklin, Pa.
Plant: Nutley, N. J.
In the Southwest:
SONNEBORN BROS., Dallas 1, Texas

H. G. Davis WAS INTRODUCED TO 4,000,000 Fellow Americans

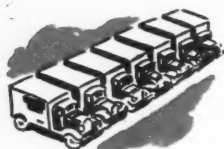


... when the nationwide Johns-Manville radio audience heard how distributors and dealers work together to keep our motor vehicles on the job.



Now the nation ... as well as the industry ... is learning the importance of distributors and repair men in maintaining our motor transport system. For Johns-Manville broadcasts this fact to every state in the union.

Recently, over radio stations from coast to coast, the listening audience heard about H. G. Davis, J-M brake lining distributor in New England*. Mr. Davis is one of many parts distributors regularly featured on these popular nationwide news programs.



Johns-Manville gladly devotes its radio time to featuring distributors because we believe it is in the public interest for the car owners of the country to understand the present and post-war importance of these men.

*Branches in Boston, Bridgeport, Pawtucket

Johns-Manville BRAKE MATERIALS

FLEET-TESTED SETS • BRAKE BLOCKS • CLUTCH FACINGS



As the oldest name in brake linings, Johns-Manville knows that only with an efficient, sound automotive parts distribution system can we properly serve the owners and users of America's cars, buses and trucks.

The Anti-Freeze
with the
Double Action
INHIBITOR

Resists Rust...

Retards Evaporation



Because of huge government requirements and restricted production during the war, our supplies of High Test Quaker Anti-freeze for this season are now exhausted.

However, some jobbers have limited stocks which are available to retailers who act quickly. Ask your jobber now.

Pennsylvania Alcohol & Chemical Corporation

Sales representatives and warehouse stocks in principal cities

745 FIFTH AVENUE, NEW YORK 22, N. Y. • ALCOHOL PLANT, PHILADELPHIA, PA.

WPB HAS GIVEN THE GREEN LIGHT!



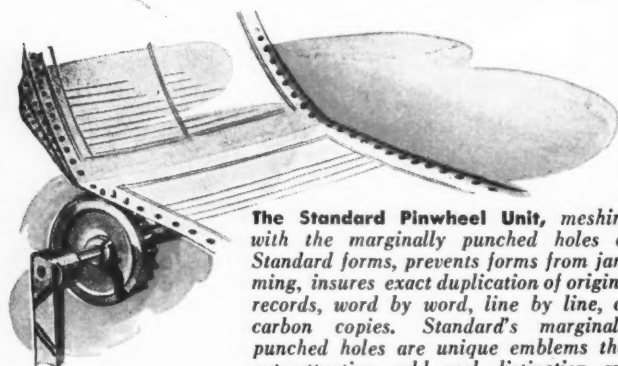
Again Available!

STANDARD'S FAMOUS FORM FLOW REGISTERS

*Now, get your records written more quickly,
more accurately... at proved savings in cost... with
these modern, efficient, streamlined registers*

THEY'RE BACK. With a war record that stretches from Europe to the Pacific. During the war, the production of Form Flow Autographic Registers went full tilt to supply the needs of the Army and Navy, government departments and critical war industries. Now they are back in civilian production.

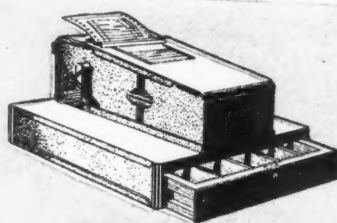
Now you can get them for your own needs—these famous Form Flow Registers that have demonstrated their ability to speed up the writing of records in almost every type of business and commercial operation. Write, today, for full information. Let us show you how a Standard Form Flow Register can save time, costly errors, needless expense for you.



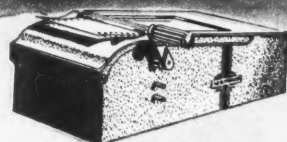
The Standard Pinwheel Unit, meshing with the marginally punched holes of Standard forms, prevents forms from jamming, insures exact duplication of original records, word by word, line by line, on carbon copies. Standard's marginally punched holes are unique emblems that get attention, add real distinction and advertising value to business forms.

THE STANDARD REGISTER COMPANY

Manufacturer of Record Systems of Control for Business and Industry
DAYTON 1, OHIO



Model 1000-C Cash and Charge. Provides foolproof protection for records and cash. Model 1000 Automatic Register mounted on steel cabinet with cash drawer. Locked-in audit copy enables you to verify all transactions and accurately balance cash. Enforces centralized control of all transactions.



Form Flow Small Counter Model 1000. Sturdily built, handsomely styled. Has a capacity of 400 sets of triplicate forms. Locked-in copy compartment in which exact copy of written records is automatically deposited in continuous folded strip for checking.



Form Flow Portable Model 2000. Light, streamlined, sturdily constructed of aluminum or steel. May be held in hand or placed on a table or ledge. The only portable with complete mechanical form ejection and trouble-free pinwheel operation. Portable models with locked-in copy or handy filing compartment for written copies. No fumbling with messy carbon sheets. Ideal for sales records, memos, phone orders—for drivers on their routes or checkers at the receiving platform. Speeds work and enforces accuracy.

TRICO has given millions of drivers

CLEAR VISION

for **SAFER DRIVING**



● Remember 25 years ago when a car driver, straining to see through a rain-drenched or snow-blinded windshield, had to grope uncertainly ahead, one hand on the steering wheel, the other awkwardly swinging a hand-operated wiper to and fro?

Today you touch a knob... and a concealed vacuum-operated motor automatically wipes the windshield so that you can SEE. Millions of these dependable, low-cost mechanisms...made by TRICO...have made driving safer and more pleasurable for motor-

ists, truck and bus drivers during the past 25 years.

Over the years TRICO has perfected these automatic wipers to a point where they seldom need attention. Yet, when needed, you will find expert service and replacement blades, arms, linkages and motors at any one of the thousands of TRICO suppliers located throughout the country.

For post-war cars TRICO has ready not only a still more efficient wiper mechanism but other equally important safe driving products.

TRICO SAFE DRIVING PRODUCTS

Lift-O-Matic

The Lift-O-Matic — push button control for the speedy lifting and lowering of car windows. Vacuum operated. Eliminates hand crank.

WINDSHIELD WASHER

Trico's famous "two little squirts." The touch of a button squirts two jets of water for 16 seconds on the windshield. Off goes blinding dust, grime, road splash, oily mist.

AIR PRESSURE

Trico's new FPS series of Air Pressure Wipers, engineered especially for trucks and buses, provides powerful, continuous wiping action under all driving conditions.

WINDSHIELD FANS

Vacuum-operated. millions of these Trico Windshield Fans are in service — on cars, trucks and buses — clearing windshields of frost or moisture.



TRICO PRODUCTS CORP.
BUFFALO 3, N. Y.

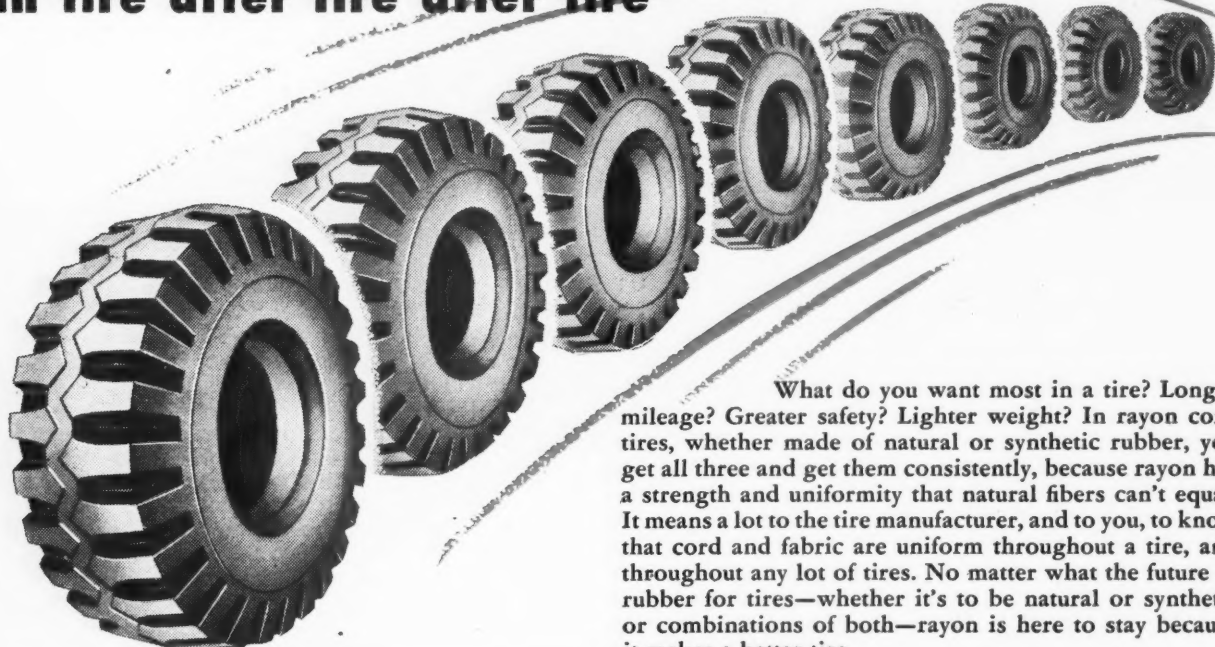


why

RAYON

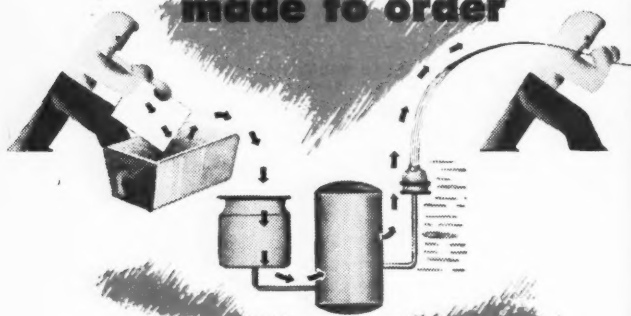
is here to stay
for natural and synthetic rubber tires

in tire after tire after tire



What do you want most in a tire? Longer mileage? Greater safety? Lighter weight? In rayon cord tires, whether made of natural or synthetic rubber, you get all three and get them consistently, because rayon has a strength and uniformity that natural fibers can't equal. It means a lot to the tire manufacturer, and to you, to know that cord and fabric are uniform throughout a tire, and throughout any lot of tires. No matter what the future of rubber for tires—whether it's to be natural or synthetic or combinations of both—rayon is here to stay because it makes a better tire.

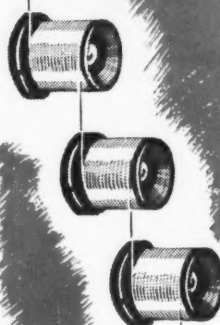
made to order



You've never heard of a rayon crop, have you? No, sir! Rayon doesn't grow—it's made by man. With this control, it's always the same—today, tomorrow, next week, next year. Tire manufacturers don't have to make adjustments to allow for variations in cord or fabric. Rayon gives them the uniformity they want.

we've got extra control

Tyron gives additional insurance of absolute uniformity because it's the only rayon made by the exclusive "Continuous Process." By this method every inch of every strand of yarn is given the same uniform treatment without once being touched by human hands. That's just one of the many extra advantages Tyron has to offer.



Have you read "Rolling on Rayon?" You should! It's a booklet on this important development in the tire field. It's FREE. Address Industrial Rayon Corporation, Cleveland 1, Ohio.



***TYRON**

*Reg. U.S. Pat. Off.

rayon for tires

Made by INDUSTRIAL RAYON CORPORATION
Cleveland, Ohio



WHEN you sell Wolf's Head Motor Oil, you are selling the finest quality motor oil your customers can buy. Car owners today realize that good motor oil is their best insurance of long life for their car. More and more are buying Wolf's Head—the finest of the fine—pure Pennsylvania oil.

The high quality of Wolf's Head Motor Oil has made it the preferred choice of leading aircraft engine makers who specify its use for their critical break-in runs. Fleet operators choose Wolf's Head because their experience shows it makes engines last longer. Oil buyers the country over who buy on performance and quality make Wolf's Head their first choice. Wolf's Head Oil Refining Co., Inc., Oil City, Pa. or New York 10, N. Y.

100% PENNSYLVANIA





The old saying that the sun never sets on the British Empire is equally true of the Master line of Automotive Replacement Parts. Sold in almost every corner of the globe, they are widely and favorably known for value and dependable service.

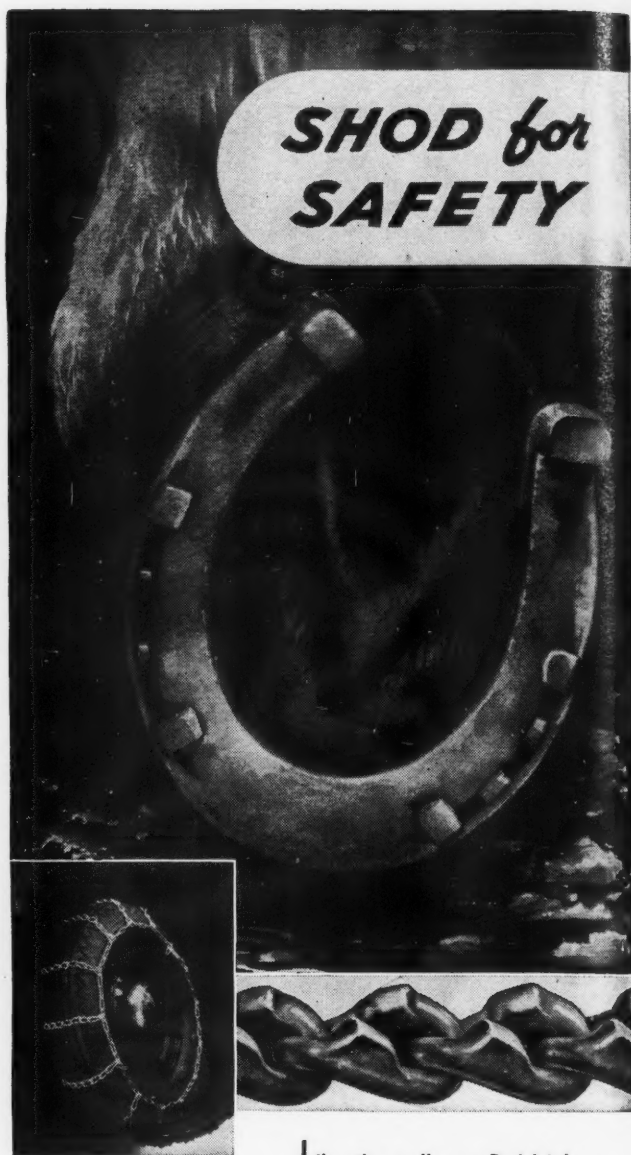
FRONT WHEEL BEARINGS
 ★
 CLUTCH RELEASE BEARINGS
 ★
 WATER PUMPS (EXCHANGE)
 ★
 WATER PUMP KITS
 ★
 TIE ROD ENDS
 ★
 PISTON PINS
 ★
 FUEL PUMPS and REPAIR KITS
 ★
 HYDRAULIC BRAKE PARTS AND KITS
 ★
 Many Other Parts for Cars and Trucks.



JOBBER: Your orders will receive immediate attention. Write Dep't B for catalogs and prevailing price schedules.

A
 DEPENDABLE
 MANUFACTURING
 SOURCE OF
 SUPPLY

CHEFFORD MASTER MFG. CO., INC.
 (DEPT B.)
 FAIRFIELD, ILLINOIS



Like the calks on Dobbin's shoes, the exclusive, patented* saw-toothed lugs of Campbell Lug-Reinforced Tire Chains dig right into snow and ice to assure positive traction. These radically different chains with the saw-tooth grip mean safe starts and stops without dangerous, rubber-chewing slip and skid. Tough, hard-wearing steel, and one-piece construction, mean increased chain mileage.

International Chain and Mfg.
 Co., York, Pennsylvania.



CAMPBELL
Lug-Reinforced
 TIRE CHAINS



THE CHAIN WITH THE SAW-TOOTH GRIP

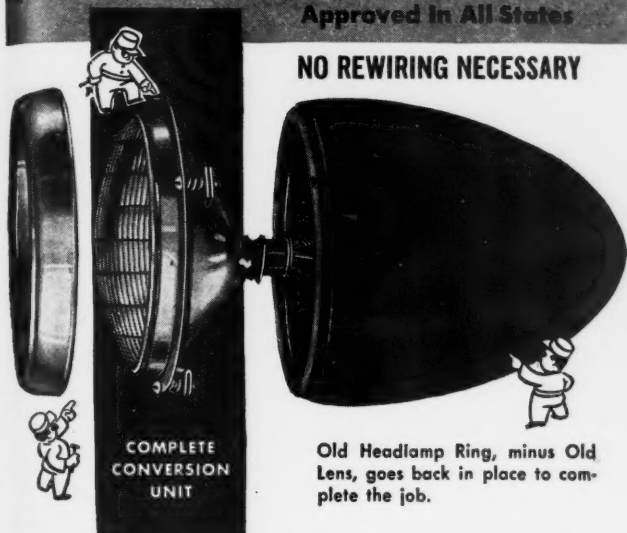
*U. S. Pat. No. 2,093,547—Canadian Pat. No. 223,568

Pathfinder

"SEALED-BEAM" HEADLAMP ADAPTERS

Approved in All States

NO REWIRING NECESSARY



Electrical connections made by clipping old wires and connecting with wires of unit. Entire adapter unit fits securely into old shell, without rewiring.

CONVERT OLD
HEADLAMPS INTO
MODERN "SEALED
BEAM" LIGHTS!



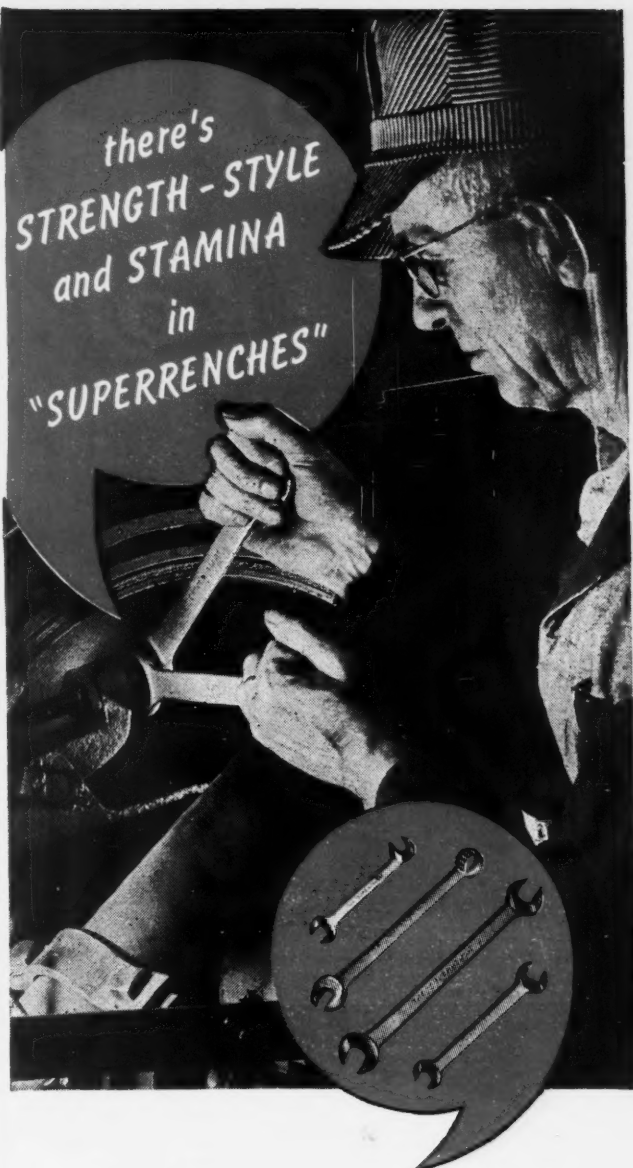
Millions of old cars will have to carry on for years before new cars can replace them. Safe operation requires the modernization of their headlamps. PATHFINDER Adapter Units enable you to convert pre-1940 headlamps into efficient, low cost "Sealed Beam" lights.

WRITE FOR CATALOG

AUTO LAMP MFG. CO.

2901-17 Indiana Avenue Chicago 16, Illinois

there's
STRENGTH - STYLE
and STAMINA
in
"SUPERRENCHES"



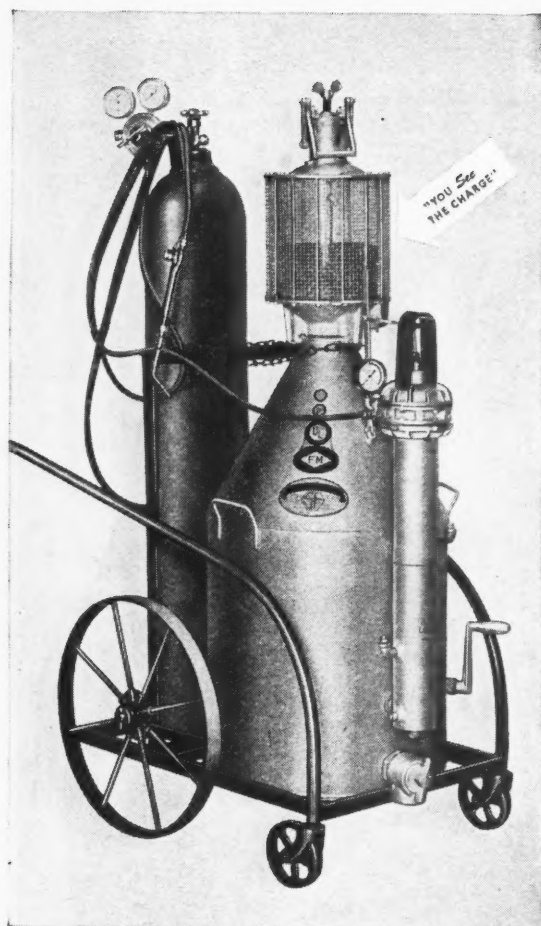
Designed with the sleek lines of a greyhound but embodying the grip of a bull dog, Williams Open End "Superrenches" have long been one of the mechanic's best friends. Thin jaws permit access into exceedingly close quarters and help speed up all types of work. "Superrenches" are made from Alloy Steel assuring long, dependable service. Balanced for easy handling and perfect fit, their positive grip prevents slippage and rounding of corners.

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THE SIGHT FEED GENERATOR COMPANY • RICHMOND, INDIANA



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FASTER... EASIER
WITH
VACO
DRIVERS**

No single screw driver can perform on ALL types of jobs with ease and efficiency. That is why VACO offers 173 types of drivers, to suit each special requirement.

No wonder VACO DRIVERS are preferred in the shop, and on the production line... by folks who know, and value, good tools and greater efficiency.

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CELL TESTERS**

*with
Adjustable Prods*

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Hoyt Instruments are used by most of the leading manufacturers of automotive test benches and equipment. Send for catalog describing the CELL TESTER and other Hoyt Instruments that make ignition service *really* profitable.

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"DIE-LESS DUPLICATING" ELIMINATES TIME LOSS AND DIE EXPENSE!

The DI-ACRO Bender is a precision unit, designed to form and duplicate an unlimited variety of parts and pieces—eliminating, in many cases, the need for special dies. Tubing can be accurately formed with the DI-ACRO Bender to a center line radius as small as $2\frac{1}{2}$ times the outside diameter of the tube without distortion. Shapes and outlines, impossible to obtain with regular production dies, are easily formed with the DI-ACRO Bender. These include round, half-round, hexagon, and square rod, tubing, angle, channel, moulding, strip, stock and bus bar.

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Peacetime production forecasts the return of Wrigley's Spearmint Gum—that favorite "help on the job," for workers everywhere. But Wrigley's Spearmint will be back only when conditions permit its manufacture in quality and quantity to meet your needs. Until that day, we ask you to remember the famous Wrigley's Spearmint Wrapper shown at right, as your guarantee of the finest chewing gum that can be made.

You can get complete information from
O'Neil-Irwin Manufacturing Co.,
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Typical Shapes Formed by the
DI-ACRO Bender



Remember This Wrapper

Z-87

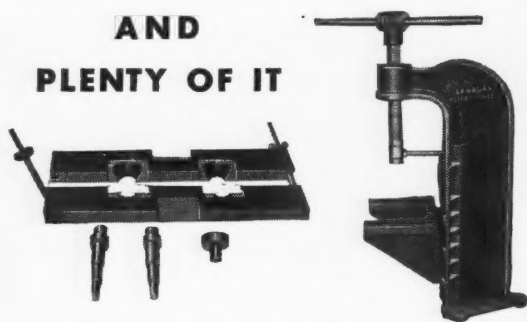


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completely covers
the replacement
field . . .

THE TIMKEN ROLLER BEARING
COMPANY, CANTON 6, OHIO

IT'S GOT PULL...

AND
PLENTY OF IT



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PRECISION AUTOMOTIVE TESTING EQUIPMENT

Today YOU CAN BUY
MANY UNITS OF
"KING" TESTING EQUIPMENT

Soon All UNITS WILL BE
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FAST CHARGER

It is now possible to proceed and make "KING" Testing Equipment on a peace-time basis. It isn't possible to immediately supply all "KING" Units in unlimited quantities but many important units are now available. We anticipate that all materials will soon be obtainable so that in the near future you can get any "KING" Unit promptly. "KING" Testing Units are built by an organization with many years of experience back of it—that has the KNOW-HOW necessary to produce quality units that will give satisfactory service. Place your order now.

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"HARD-HITTING"
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...HEALS ITSELF

TESTED! A 6-inch cylinder of Flex-O-Cryst pressed under 10-ton pressure into sheet (1/8 inch thick) slowly returns to original shape and size.



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NUPLA Hammer is a craftsman's tool. Has a straight grain hickory handle locked in place; finely finished. Write for name of local dealer or jobber... SOLD BY HARDWARE STORES EVERYWHERE.

NEW PLASTIC CORP. 1017 N. Sycamore Ave., Los Angeles 38, Calif.

A NUPLA HAMMER FOR EVERY JOB
5 SIZES—29 WEIGHTS



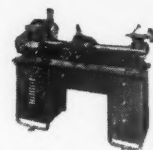
MIGHTY
but Gentle

NUPLA PLASTIC
HAMMERS



from any angle...

SHELDON
S-56 LATHE



- Heavy bronze bearings
- 1" Collet capacity
- 11¼-inch swing
- Double-walled apron
- Large hardened and ground spindle
- Extreme accuracy
- Convenient controls
- Underneath V-belt motor drive
- All Steel Bench

...compare a SHELDON S-56 lathe in the moderate priced field, and you'll find more accuracy, more capacity, more convenience, more design, more quality... from any angle just more lathe. The SHELDON S-56 lathe has a bed length of 56", with rigid T-girted bed with 2 V-ways and 2 Flat ways which are ground and hand scraped to .0005" of both lateral and parallel alignment. Lead screws are cut on the finest Pratt & Whitney "super precision" lead screw machine. The S-56 lathe with 56" bed is mounted on a rigid 5 drawer steel bench (18-44 with 44" bed) on a 4-drawer steel bench which houses an efficient 4-speed (3 spindle speed) underneath motor drive. Each come with full quick change gears, power longitudinal and cross feeds and standard big lathe features. **SHELDON MACHINE CO., Inc.** 4239 N. Knox Ave., Chicago 41, U.S.A. Builders of Good Lathes since 1919

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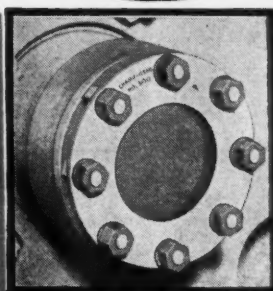


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Penetrating...

Dries Pliable...

Enduring...



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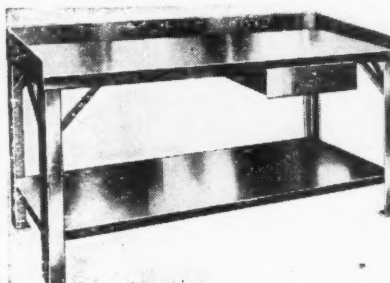
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New Work Bench Is Introduced

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It can be furnished as a plain work bench with 12-gauge steel top and with bottom tray, back and side railings, drawers with padlock attachment, adjustable 3-compartment tray for drawer. Benches may be used side by side and back to back forming larger working surfaces in a minimum of floor space.



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- STOP LIGHTS
- MARKER LIGHTS
- TURN SIGNALS
- FLARES
- REFLECTORS
- CLEARANCE LIGHTS

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MOUNT HOLLY, N. J.



Repair ENGINE CRACKS in 30 MINUTES!

FAST! EASY TO USE!
No special equipment or training needed with Wonder Seal. Write for Folder.

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NEVER EQUALLED!**

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*Stop that
Noise!*

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These popular sizes
will service 90% of
your requirements



Use Cold Plug for heavy duty or fast-driving installations.

Use Normal Plug for average driving (dry installations).

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The LEONARD PLUGS listed above will service over 90% of your requirements. Refer to Duration Catalog for complete information.

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Maintenance Short Cuts
FOR SERVICE SHOPS

Cleaning Cooling Systems
1 of 4 Jobs Performed
By Oakite Penetrant

It's sound business to concentrate on a cleaning material that's deliberately designed to do a variety of shop maintenance jobs. You save storage space, you save time and you save money! That's why so many economy-wise shop superintendents keep on hand a supply of four-purpose Oakite Penetrant, particularly when they're faced with these four recurring jobs:

1. Cooling System Conditioning
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3. Parts Degreasing
4. Floor and Work Pit Cleaning

There's an Oakite Technical Service Representative near you . . . why not allow him to put Oakite Penetrant through its paces on these four jobs in your shop? In the meantime ask us to send you a free copy of our descriptive 12-page booklet. Drop us a note today!

OAKITE PRODUCTS, INC., 24C Thames St., NEW YORK 6, N. Y.
Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE *specialized* **CLEANING**
MATERIALS METHODS SERVICE

OCTOBER, 1945

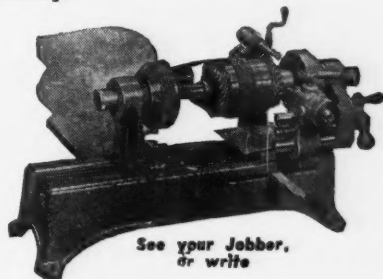


A SHOP NECESSITY

This marvelous machine is vitally necessary to take care of the flood of work that is facing automotive repairmen.

With the TRUCUT you can handle more jobs, do the work faster, more accurately and more profitably.

The TRUCUT machines and undercuts commutators, makes them like new, in 5 minutes.



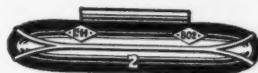
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TRUCUT
Armature Lathes & Undercutters

344 W. MAIN STREET, WAUKESHA, WIS., U. S. A.



For another year or so the bulk of your repair business will continue to come from OLD cars and trucks—not the NEW ones. So don't overlook anything that will help to keep the old ones "perking." Balance the wheel of every one that comes into your shop, thereby reducing the vibration that raises hob with mechanical parts. It's a service that will pay you a nice profit.



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for wall chart showing
the pounding effect of
unbalanced wheels.

WHEEL
BALANCING WEIGHTS

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175

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BETTER SAVE YOUR ENERGY FOR A COWBOY - I HAVE

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BRAKE LINING

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Smash-Proof

CREEPERS

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HULBERT MANUFACTURING CO.
Ashtabula, O.

Small Pneumatic Hammer

A small, powerful pneumatic hammer, delivering some 13,000 blows per minute and operating on less than 2 cubic feet of air at 80 to 100 psi, will be released for general distribution for the first time this month, according to announcement by the manufacturer, Superior Manufacturing Co., Public Square Bldg., Cleveland 13, Ohio. A four page bulletin describing the hammer in detail is available.

Weighing less than two pounds, the hammer, appropriately named the "Bantam Bully," fits easily in the hand. A pistol grip handle, of dimpled aluminum casting, gives the operator comfortable control of the rapid-firing power of the hammer.

Returns to Post

T. J. Newton has returned to his former post in United States Rubber Co. tire engineering and service department at Detroit after a three-year leave of absence to do special work for the government at Washington, Sidney M. Cadwell, assistant general manager of the tire division, announced.

Classified Advertisement

Canvas covers, tarpaulins; truck, boat, machinery; new, full weight; mildew, waterproof; rust proof grommets. All sizes. Direct factory prices. Industrial Mfg. Co., Dept. 13, Milwaukee, Wis.



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Vulcanized
TIRE & TUBE REPAIRS

for natural or synthetic rubber.
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BATTERY CHARGERS
BATTERY TESTERS
SHOP GRINDERS
ELECTRIC MOTORS

GET LONGER,
TROUBLE-FREE PERFORMANCE

with
Pedrick
precisioneered

PISTON RINGS

in guaranteed
ENGINEERED SETS

For every Car, Truck,
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CLEAN FAST— CLEAN WELL!

Use Magnus Methods and Materials to clean fast and well and insure a really effective preventive maintenance program.

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MAGNUS Automotive Cleaners



SNAP-ON TOOLS CORPORATION
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Since 1897

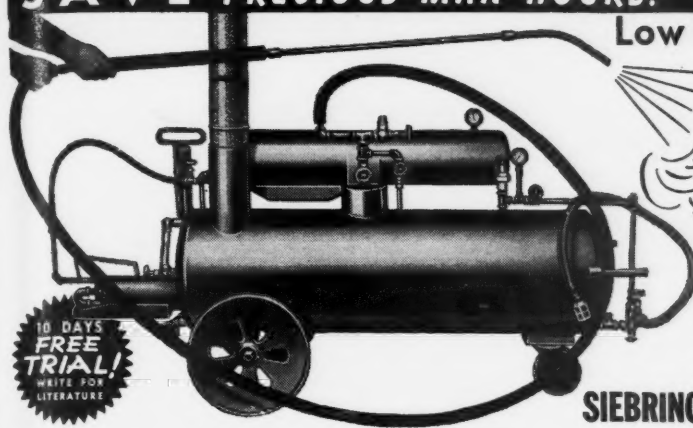
UNITED STATES ELECTRICAL TOOLS

have never swerved from their
original standards of QUALITY
AND SERVICE

**THE UNITED STATES
ELECTRICAL TOOL CO.**
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SAVE PRECIOUS MAN HOURS! SPEED ALL REPAIR WORK!

Low Cost . . . Efficient . . . Portable!



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TRIAL!**
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LITERATURE

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Cuts GREASE and GRIME In A Hurry!

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YOUR HEATER HOSE
NOW!**

Ask your Jobber about
**EVERFLEX Super-Soft, Extra
Flexible, Copper Heater Hose**

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**ELIMINATE SANDING
and ELBOW GREASE**
Remove RUST Chemically

with **METALPREP 79-V**



• In preparing metal for paint, don't do it the hard way. Use the proven cleaner, METALPREP 79, on your refinishing jobs. It's easy, more effective and thorough. Simply BRUSH ON, STEEL-WOOL, SCRUB and WIPE OFF. PREWAR FORMULA.

Ask your jobber or write for Bulletin 44-5.

JOBBER: Add profit with Metalprep.

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THE NEED
FOR**

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BRAND

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CHEMICALS FOR EVERY
AUTOMOTIVE NEED!

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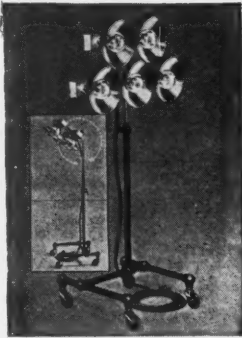
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AND CARE USE
Flare

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ESTABLISHED 1920
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Drying Units**



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Illustrated.*

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An Old Favorite Returns!

Range up to 250 lbs.
PRICE \$40

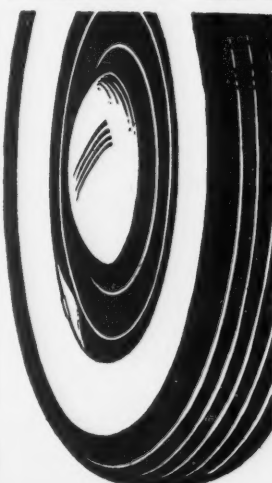
THE well known RIMAC Valve Spring Tester, for years a highly valued item of shop equipment, is back on the job. Uncle Sam had first call on this finely built, accurate instrument. And incidentally, while satisfying stiff military requirements, our engineers developed ways of making it better than ever—for you!

**RIMAC
SPRING TESTER**

For Valve & Clutch Springs

We are glad to announce that we are now able to make deliveries to our trade. No priorities needed. Write for details.

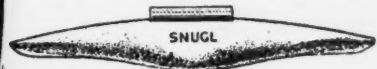
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FAD-A-WAY
AUTOMOTIVE**

WHEEL BALANCE WEIGHTS

TRUCKS • BUSES • PASS. CARS



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D-5189

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LOS ANGELES 15, CALIF.**

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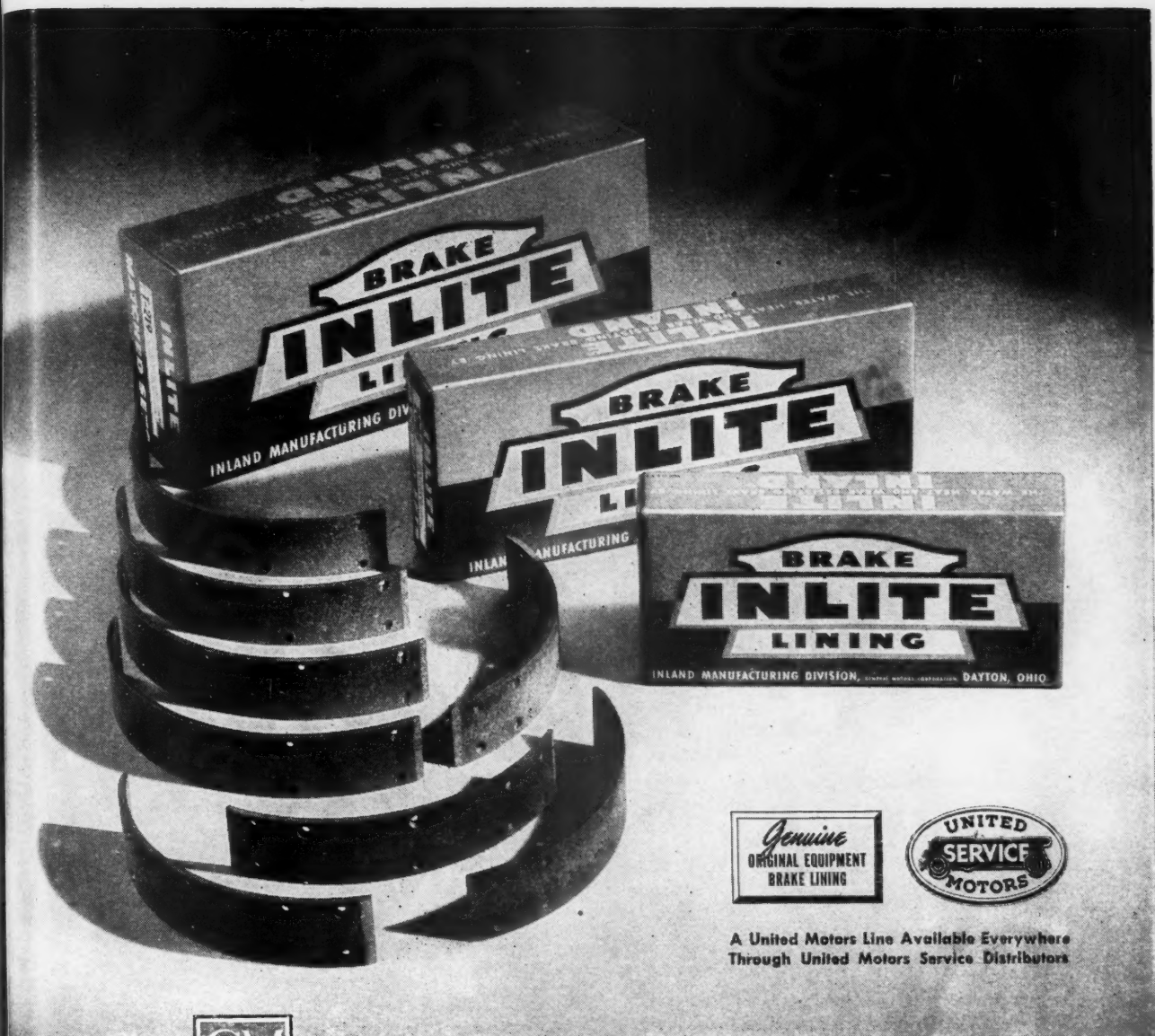
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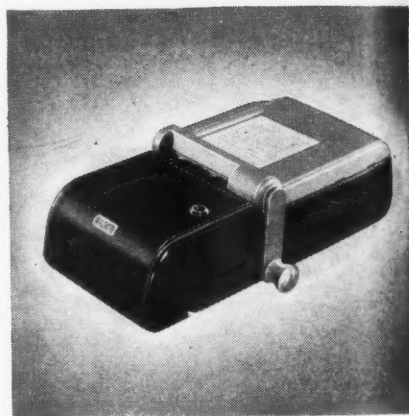
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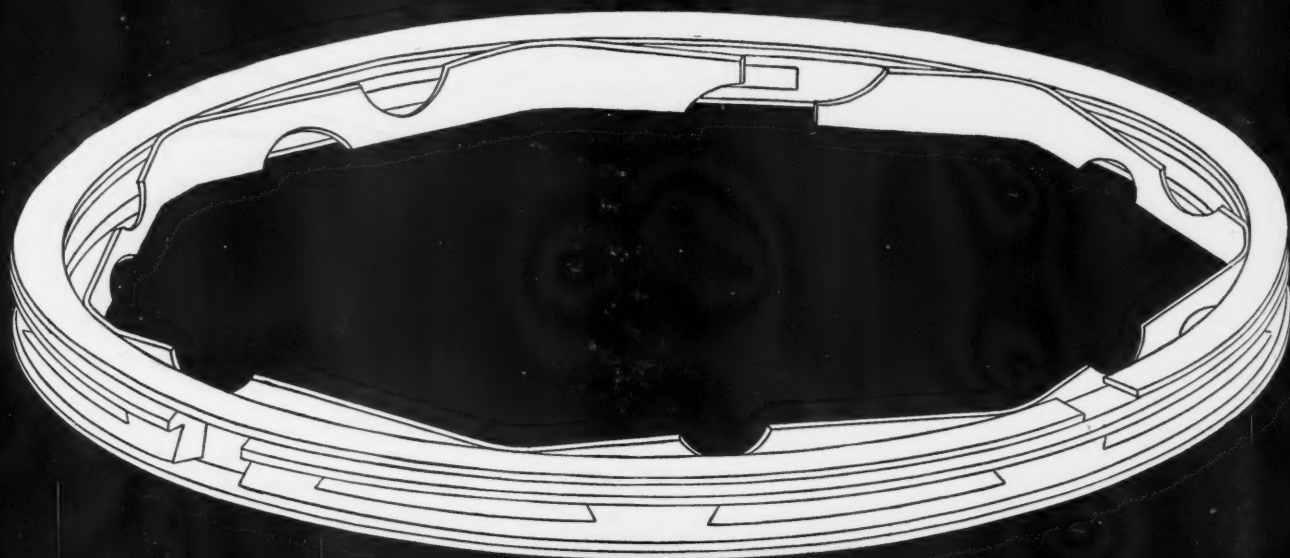
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